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JANUARY, 1945

No. 1



MT. MITCHELL IN THE WINTER

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 months to 2 years.
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 15 to 24 months; 2 to 3 years; 3 to 6
 years.
 Instruction for North Carolina Midwives.

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CARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

Typhoid Fever in North Carolina

By

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DURING the past 30 years the State Laboratory of Hygiene has distributed more than 20,000 liters of anti-typhoid vaccine or sufficient to give two complete series of inoculations to every man, woman and child in North Carolina.

During this period the death rate from typhoid fever has been reduced from 35.8 in 1914 to 0.5 per 100,000 population in 1943.

The immunization each year of an average of 200,000 people, over a period of 30 years has produced an immune group of uncertain proportions, which has had a great influence on the morbidity and mortality rates.

It is a recognized fact that the presence of such an immune group in an area will effectively prevent the occurrence of any wide spread epidemic. This is borne out by our experience in North Carolina where typhoid fever has become more and more a rural disease, endemic in certain areas where the percentage of immunes is relatively low.

Before we began to supply free typhoid vaccine, the bacterin sold for \$1.50 for each person. Consequently few were immunized. Typhoid fever was prevalent in all parts of the State. In 1910, the U. S. Army began to protect the men in the armed forces by injections of vaccine, and promising results were indicated.

The medical profession, in the interest of preventive medicine, began to see the pos-

sibilities of general vaccination against typhoid. In 1913 Dr. G. M. Croper (at the time a practicing physician in Sampson County) made a plea for free distribution of typho-bacterin. During the latter part of that year we began the manufacture of our first biologic product. During 1914 we distributed sufficient to immunize more than 40,000 persons, although there was no campaign and no general program of clinics. The response of the health officers as well as the general practitioners to the demands of the people was generous and gratifying.

In 1915 the State Board of Health inaugurated a definite program which would make it possible for any person in North Carolina to protect himself against this preventable disease. Campaigns were conducted by the State Board of Health, under direction of the Division of Epidemiology. Publicity was given by lectures at schools, mills, etc. Posters, press articles and newspaper advertisements, as well as public lectures, were used to bring to the attention of the public the danger of the disease and to awaken interest in the campaign.

In counties having full-time health organizations, the State Board of Health depended on this personnel to carry out the recommended immunization programs against typhoid fever. In other counties programs were instituted, whereby the work was done by the

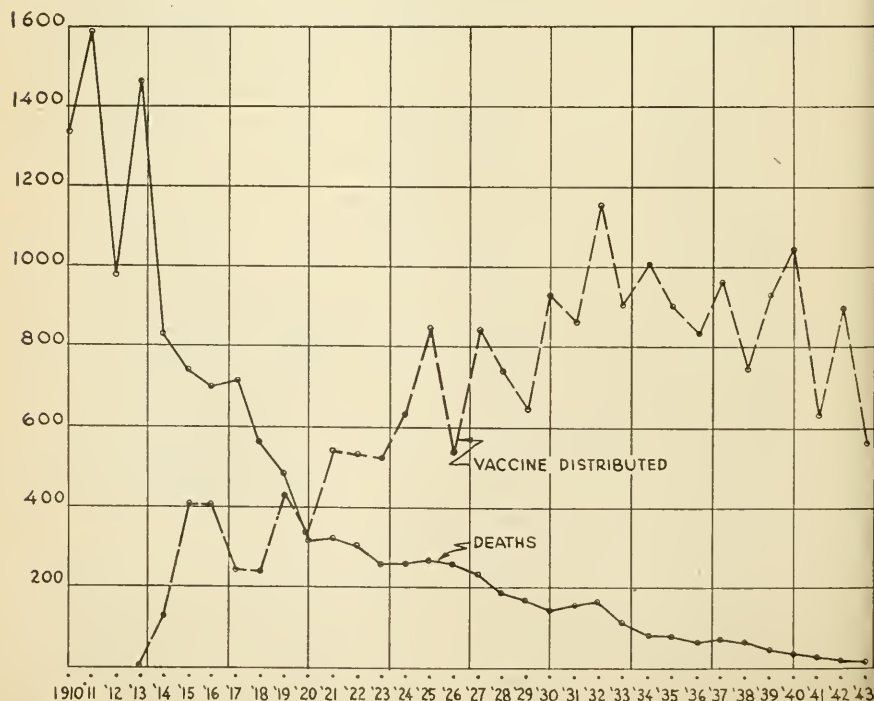
regular licensed physicians of the county. Physicians gave the treatments in their offices and at points in the rural sections convenient to the country people. This policy was followed in order to demonstrate that it was in the interest of the family physician as well as the State Board of Health to prevent disease. Physicians who participated were paid a small amount for each dose administered. Assistance was also given counties which supported whole-time health officers, who carried out the programs with their own personnel.

Complete records were kept of the number who received the three injections. In 1915 and 1916 more than 100,000 persons were immunized. The figures shown in Table B. include only those receiving the treatment in the counties where the work was done under the supervision of the State Board of Health. No figures are available for the counties having full-time health officers, nor for those

who went to their family physician for the injections.

In 1917 and 1918 the program was interfered with by the difficulty of securing the necessary medical officers to do the work, the preparedness program of the government having caused many doctors and nurses to enter the Army and Navy. In spite of this handicap, 30,000 received the typho-bacterin in 1917. In 1919 twenty counties co-operated in the plan to have third year medical students give the injections, and 49,076 completed the three doses. In 1920 twelve counties gave the treatments to 29,435 individuals.

A reduction was noted in the typhoid rate during these two years, due to the fact that 32 campaigns were conducted, in which 88,000 people received the three doses, in addition to 25,000 immunized by health officers through the Bureau of County Health. The records show that during 1921 and 1922



campaigns in 30 counties were responsible for 90,338 immunizations. In 1923 and 1924, 74,460 people were immunized in 25 counties.

The number of persons immunized each year under this plan is shown in the following table A.

Table A

Year	Total Number County Campaigns	Number Persons Treated
1915-16		100,000
1917		30,000
1919-20	32	88,000
1921-22	30	90,338
1923	16	47,837
1924	12	48,427
1925	18	74,460
1926	11	49,749
1927	11	51,239
1928	11	51,973
1929	11	65,745
1930	6	55,772
1931	13	76,775
1932	10	60,411
1933	8	78,893

While the general use of typhoid vaccine has played a major role in the control of typhoid fever in this State, there are other factors which have had their influence. In 1908 the State Laboratory of Hygiene began to make regular monthly chemical and bacteriological examinations of samples from each public water supply. In 1909 the General Assembly provided that all public water companies file plans and specifications of their plants with the State Board of Health, and that the State Board of Health pass necessary rules and regulations for the care of public watersheds and plants, and furnish such rules and regulations and other advice to those having charge of public water supplies. In 1911 the Legislature established County Boards of Health to take the place of the county sanitary committees, and four counties employed whole-time county health officers. In 1914 the State Board of Health began the program to install privies in all homes.

Table B. shows the total number of liters of vaccine distributed and the decrease in number of cases and deaths per year, and the decrease in the death rate per 100,000 population. To arrive at the number of persons immunized each year, multiply the number of liters distributed by 400, as one liter is sufficient to immunize approximately 400 persons, provided none is wasted.

Table B

Year	No. Cases Reported	No. Deaths Reported	Rate Per 100,000	Liters Vaccine
1914	8390	839	35.8	125
1915	7440	744	31.3	402
1916	7000	700	29.1	400
1917	6280	628	30.2	249
* 1918	3471	502	22.2	246
1919	2956	427	17.0	435
1920	1856	322	12.5	326
1921	2099	307	11.7	551
1922	1960	299	11.2	544
1923	1577	267	9.9	534
1924	1318	270	9.9	629
1925	1192	277	9.8	855
1926	1502	270	9.4	557
1927	1280	226	7.8	843
1928	1073	185	6.3	747
1929	861	164	5.5	647
1930	1000	154	4.7	933
1931	991	157	4.8	868
1932	823	162	4.9	1175
1933	684	129	3.9	908
1934	464	91	2.8	1006
1935	645	84	2.4	902
1936	518	73	2.1	839
1937	493	77	2.2	963
1938	485	72	2.0	747
1939	343	48	1.4	936
1940	238	39	1.09	1047
1941	197	32	.884	630
1942	181	21	.57	889
1943	117	19	0.5	576

* Beginning in 1918 cases based on reports from physicians.

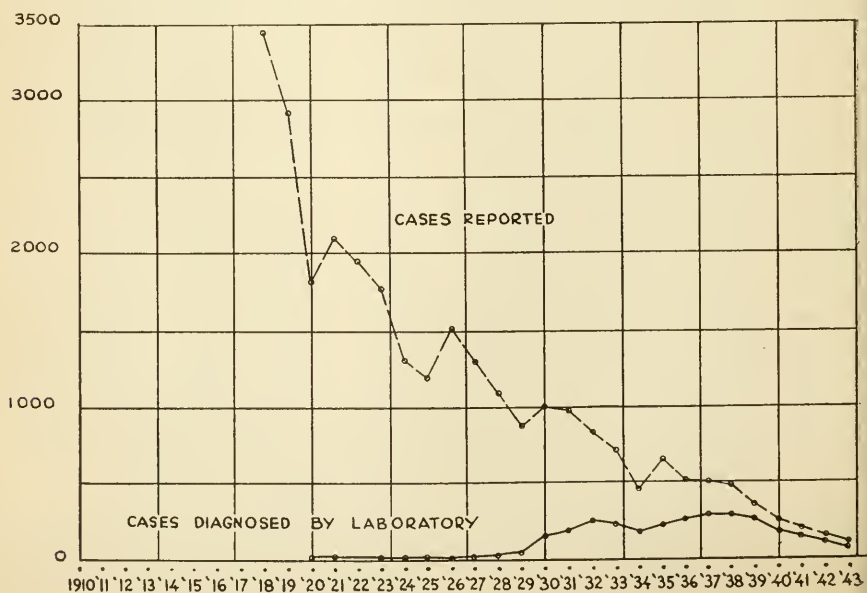
During 1915 and 1916 more than 100,000 persons received three doses of antityphoid vaccine, the work being carried on by the

county health officers through clinics established in rural districts. In 1920 the Division of Engineering of the State Board of Health was assigned the duty of enforcing the State-wide privy act and during the first two years 28,000 unsanitary privies were replaced either by sanitary privies or sewer connections. Continuance of this program and of that to safeguard the public water supplies of the State and the installation of suitable purification systems in many small communities where they had formerly been lacking, have had their share in the control of enteric diseases in North Carolina. In 1924 plans were formulated for the more adequate sanitary control of milk supplies in the State, and a standard form of milk sanitation ordinance was adopted.

In 1926 surveys were made of the shellfish growing areas of the State and control measures were instigated for the sanitary production and handling of shellfish. In addition, better sanitation of summer camps, resorts and roadside eating places as well as inspection of all hotels, cafes and boarding houses have had their significance in the decrease of typhoid fever as well as all other communicable diseases. Factors having a part in the decrease

of typhoid fever as well as other communicable diseases include: State Sanitary Privy Law, School Sanitation, State Institution Sanitation, Hotel and Restaurant Sanitation, Summer and Tourist Camp Sanitation, Roadside Sanitation, Public Water Supply Control, Public Sewage disposal control, Public School water supply and sewerage disposal control, stream pollution surveys, chemical and bacteriological examinations of water samples, Milk and Shellfish Sanitation.

From 1914 until 1933 the vaccine distributed was made with the Rawlings strain of *B. typhosus*, which was the same as that used by the U. S. Army. Beginning in 1929 we endeavored to secure histories of cases previously vaccinated in order to evaluate the protection against typhoid fever by the use of our vaccine. We found that a large percentage of cases had never been vaccinated or not within three years of the time they contracted the disease. During the period 1929-1933 an attempt was made to increase the immunizing properties of the vaccine by using only the smooth variety of colonies for the purpose of making the vaccine. However, an increasing number of cases were reported to have had three doses



of vaccine within two years of the date of onset. This fact induced us to change to Grinnell strain of typhoid for making our vaccine. Late in 1933 we began to use the latter strain and found that while there were more complaints of severe reactions following the injections we were rewarded by having relatively no failure reported. We continued the use of the Grinnell strain until 1942 when we changed to the Panama strain which was being used by the Army for their vaccine. Judging from the reports received to date, we are convinced that both the Grinnell and Panama strains are superior to Rawlings in antigenicity. The occasional occurrence of undesirable reactions following injection is of little importance in relation to the results obtained in prevention of typhoid fever. From 1913 until October 1917 we distributed only the straight typhoid vaccine, but since that time we have also distributed the triple vaccine which contains both the para A. and para B. as well as the typhoid bacilli. The straight typhoid vaccine contains approximately 1000 million organisms per ml. (cc.) and the triple contains the same number typhoid and in addition approximately 250 million of each para A. and para B. bacilli. This is the same scheme as used by the U. S. Army, which has practically eliminated typhoid fever among the armed forces in the present war. Each lot of vaccine is tested for sterility and for antigenic properties before being released for distribution.

In 1924 we began making blood (clot) cultures in cases of suspected typhoid fever. The physicians of the State took advantage of this service, and during the following years more and more early diagnoses were made. Table "C" shows the number of positive diagnoses as against the number of cases reported for the same year. For the past six years approximately three fourths of the cases reported were based on laboratory diagnosis.

Table C

Year	Cases Reported	Number Lab. Diagnoses
1924	1318	5
1925	1192	14
1926	1502	10
1927	1280	20
1928	1073	32
1929	861	56
1930	1000	166
1931	991	214
1932	823	254
1933	684	232
1934	464	189
1935	645	243
1936	518	260
1937	493	287
1938	485	311
1939	343	242
1940	238	164
1941	197	153
1942	181	150
1943	117	90

(Note: For the past two years the figures include para-typhoid as well as typhoid fever.)

Comparisons are sometimes odious, but in this case North Carolina compares favorably with other states for which statistics are available. Virginia reported a death rate of 0.9 per 100,000 for 1942, where various phases of environmental sanitation plus immunization is given as the reason for the declining rate from 33.1 in 1913. Michigan reported five deaths, with a rate of 0.09 for 1942, which is a remarkable achievement. For the 93 large cities included in the report for 1942 the death rate is 0.25 per 100,000. Of the 95 deaths reported, 32 were among non-residents, (imported), and probably from rural districts.

Present Status of Typhoid Fever

During the past 30 years the incidence of typhoid has decreased from approximately 8390 cases in 1911 to a low of 117 in 1943, and for the same years the death rate has been reduced from 35.8 to 0.5 per 100,000 population.

Although some credit must be given to improvements in water supply, sewage disposal

and sanitary conditions in general, for this almost phenomenal drop in typhoid fever rates in North Carolina, it is our opinion that the main factor has been the immunization of a large percentage of our population, through the use of prophylactic typhoid vaccine.

We might relate numerous instances where those members of a family who had been inoculated escaped, while those who had not taken advantage of the prophylactic were stricken with the disease, with equal exposure to infection from a previous case of typhoid carrier.

The problem of further reduction in the incidence of typhoid seems to resolve itself into three equally important procedures: first, prompt laboratory diagnosis of cases by blood (clot) cultures, supplemented by cultures of the urine and fecal discharges, in cases where the blood culture is negative. Such a program is important both from the diagnostic and public health standpoints. It enables the physician to institute proper treatment of the sick, and to prevent the spread of the disease among the contacts by anti-typhoid vaccination and the proper disinfection of the discharges of the patient. Second, the examination of feces and urine specimens of suspected carriers, and the proper supervision of known carriers, especially as to the handling of food for any persons other than themselves. The majority of typhoid fever cases in North Carolina now originate from other unrecognized cases or from typhoid carriers. For this reason we advise the examination of specimens of feces and urine from each convalescent case of typhoid until at least two consecutive negatives have been reported. Early laboratory diagnosis of cases is necessary to establish proper preventative and control measures. Improved cultural methods are used which simplify the procedures. A "missed case" of typhoid fever is a significant factor in typhoid epidemiology. Search for additional cases associated with any reported case will aid in the control of small epidemics. Third, the continued use of the prophylactic antityphoid vaccine, both in county clinics where it is made available free of charge, or from your family physician.

We recommend that each person receive three doses at weekly intervals, of 0.5 ml. (7.5 minims), 1 ml. (15. minims) and 1 ml. the first year. In cases where more than one year has elapsed since the administration of the prophylactic, the same course should be followed. In succeeding years, one dose may be taken each year, which is sufficient to boost the immunity. These annual injections may be given subcutaneously, or if preferred, one tenth ml. may be given intracutaneously. The latter method is less liable to produce severe general reactions, and is the method of choice for persons who develop such reactions. When the subcutaneous method is used, reactions are not liable to occur, if a rubber band is put around the arm above the site of the injection for half an hour. This merely slows down the absorption of the vaccine, and is advantageous both in preventing general reactions and in the development of higher immunity. The subcutaneous method will probably be used in clinics where speed in the administration of large numbers of injections is important. But in the office of the private physician, the intracutaneous method has its advantages. Either method is satisfactory from the public health viewpoint in the production of antibodies and immunity. Careful study of our records shows that typhoid immunity is a relative thing, increasing during the first few months following a series of injections until about the end of the first year, followed by a slow but general decrease. The majority of failures to protect occur either before sufficient immunity is produced or after the expiration of two years following the immunization. For this reason, it would seem better to take a single boosting injection each year after the initial series, than to take a complete series each third year. Re-vaccination is advised for all contacts of a case of typhoid fever, as soon as possible after diagnosis has been made. Revaccination is also advisable whenever one intends going on vacation where the chance of infection may be increased, or where the sources of food and drinks are less carefully supervised or liable to infection.

The use of the so-called "oral" typhoid vaccine is not advised, because we have little proof of the value of such vaccine in the production of immunity.

Typhoid fever is now, more than ever, a rural disease. This is due to the fact that municipal water supplies are carefully supervised and the general sanitary conditions are more favorable than in rural districts. During the past year, typhoid fever occurred in 48 of the 100 counties in North Carolina. During the present emergency, when all public health activities are strained to the utmost, due to loss of personnel and other factors, we should be more careful to see that as many as possible

receive the prophylactic, and thus prevent any increase in the incidence of this preventable disease.

The reduction in typhoid fever rates testifies to the fact that safe-guards have been placed around water supplies, milk and other foods, as well as by general prophylaxis through immunization of a large portion of our population.

Typhoid has taken a tremendous toll in past years, and unless we continue the program of sanitation and immunization, we may experience a reversion to higher rates, because of our self complacency and lack of precautions.

Things You Should Know About Bacteria

V. Personal Hygiene

By

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(This is the last of a series of five articles dealing with bacteria and their relation to the proper handling of food.)

INTRODUCTION

IN the four articles which preceded this one, we weighed the factors of DISEASE PRODUCTION against those of DISEASE PREVENTION. The factors in favor of GERMS are numerous and sundry. THE ODDS ARE NOT IN OUR FAVOR. We are not, however, a people easily given over to defeat. Instead, we are a nation of people who have been faced on many fronts, in our history, with trials and tribulations, when defeat seemed inevitable, WHEN THE ODDS WERE CLEARLY AGAINST US. We won then—WE CAN and WILL win now. It is within our power to do so. Our disease producing enemies are many, cunning and deceitful, lurking everywhere. But we know and understand our defenses.

Because germs are so very tiny—it takes about 25,000 to cover an inch—

Because germs multiply about every 20 minutes under favorable conditions—

Because germs must have FOOD, WATER and proper HEAT to live and grow—

we are ever alert in dealing with these unseen enemies.

we will not provide them with a suitable place to reproduce such as encrusted cracks and crevices and dirty table surfaces.

we will deprive them of one or more of these necessary requirements by clean careful preparation of perishable foods and by proper refrigeration.

Because germs are everywhere, on and in our bodies, on our clothes and in the air
AND WOULD REMAIN THERE IF WE DID NOT TRANSFER THEM

Because germs are so prevalent on and in the bodies of rats and flies—

Because germs are washed off and killed in the washing and sanitization process—

we will not be guilty of this transfer of germs by any unnecessary fingering of foods or the surfaces with which foods make contact, or by coughing or sneezing over foods.

we will not allow these creatures the refuge they seek in or near where food is prepared and served.

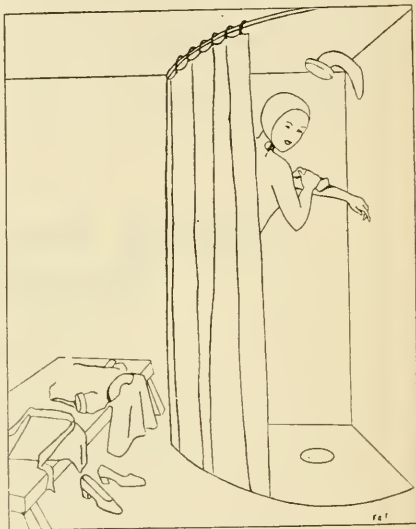
we will protect these safe eating utensils by proper storage and subsequent proper handling.

It is because of our knowledge and understanding of these and many other defenses that we **CAN** and **WILL** lick out **DISEASE PRODUCING** enemy. In the light of this newer knowledge of **GERMS**, of **CATCHING DISEASES**, of **INSECTS** and **RODENTS**, and **PREVENTION METHODS**, covered briefly in the first four articles, one more important phase remains to be discussed. The **DESIRE** and **WILL** to do the job **CORRECTLY**.

Actions. Speak Louder Than Words

Much of one's desire and will to do any job correctly rests with a knowledge and understanding of the job that must be done. On its face value alone, it would appear that it is our job to simply prepare and serve food to the consuming public. But that is grossly incorrect. Just as incorrect as it would be to say that a policeman's job it to simply

patrol his beat. If he did no more than just that, we would not get the protection he should afford us. We depend on him not only to patrol his beat, but to observe and act when he encounters infractions of the law. He is a good and reliable policeman when he does his job correctly. We **PROTECT** our own **HEALTH** and the **HEALTH** of those we serve, when **WE DO OUR JOB CORRECTLY**.



BATHE FREQUENTLY

KEEP YOUR BODY CLEAN

Frequent baths, at least once each day, is your protection against offensive body odors and the accumulation of surface body wastes which help so much in maintaining physical fitness. The habit is easily acquired. In addition to its many healthful benefits, body cleanliness is conducive to clean habits and wholesome methods of conduct.



Tuberculosis is the No. 1 Disease Killer of persons between 15 and 45—the vital productive years of life, years of youth, young mothers and young fathers, the years on which this country's security and survival depend.



DRESS CORRECTLY

Doctors, dentists, nurses, motormen, policemen, soldiers, chauffeurs and many in other professions wear identifying uniforms. WHY NOT US?

We, as FOOD HANDLERS, in either the kitchen or dining room, are engaged in a

most respectable and responsible profession. The amount of respect and responsibility we command depends on us. HOW WE DRESS HELPS MATERIALLY. Clean bodies and proper uniforms have a stimulating effect. They help TO DO THE JOB CORRECTLY.



During the course of a day's work, we invariably get some soil (AND GERMS) on our fingers and hands. Soap and water will wash off the soil and GERMS. TO DO ANYTHING ELSE IS A CARELESS TRANSFER OF GERMS. Dirty hands means a dirty body and all too soon a dirty uniform. Frequent washing of the hands will prevent all that — AND MORE — THE OBJECTIONAL TRANSFER OF GERMS.

**WASH YOUR HANDS FREQUENTLY
ESPECIALLY
AFTER EVERY VISIT TO THE TOILET**



HANDLE WITH CARE

Be thoughtful of your own HEALTH and WELFARE as well as of those you serve by PREVENTING ANY TRANSFER OF GERMS.

1. Use an ice tong or scoop—BY THE HANDLE—to obtain cracked ice.
2. Use a butter fork—BY THE HANDLE—to get chips of butter.
3. Set the table with knives, forks and spoons—BY THE HANDLE END.
4. Handle coffee cups — BY THE CUP HANDLE.
5. Carry water glasses—BY THE BOTTOM END.
6. Handle dishes—BY THE BOTTOM and RIM END.
7. Use your side towel — AS A SIDE TOWEL.

Patrons are more alert than we suspect. The manner in which you set the table, serve the food and remove soiled eating utensils makes a profound impression on the customer. Even the politeness with which you act has its effect. A "Thank you" when you present the check is not apt to raise a response from the patron of "Don't thank me—thank God I ate it," IF YOU HAVE DONE YOUR JOB CORRECTLY.

The Whooping Cough Problem

PART II

By

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INTRODUCTION

IN discussing the large scale use of whooping cough vaccine it is necessary to know something of certain facts about the organism itself, particularly in regard to its immunity-producing characteristics, to review certain aspects of mass whooping cough vaccination as carried out in field studies, and to outline certain basic principles of a plan for use of the vaccine in this state so as to eliminate as much as possible of the mortality and morbidity caused by this disease at present.

Summary of the Immunology of *Haemophilus Pertussis*

The etiological agent of whooping cough *Haemophilus pertussis*, is a short gram-negative ovoid rod occurring singly or in pairs. The organisms grow readily only on special media containing blood. The organisms when freshly isolated from a patient with the disease produce round, glistening hemispherical, and translucent colonies of about 0.5 mm. in diameter. Colonies of organisms derived from other sources are usually larger, with a rough-

*WHOOPING COUGH DEATHS UNDER ONE YEAR
1941-1943
Showing Age in Months*



ened surface, and may have indented edges. Organisms in the former, or "smooth" colonies, are encapsulated while those in the latter, or "rough" colonies, have no demonstrable capsule.

This dissociation of the pertussis organism into two or more morphological forms has been found to hold the solution to the many difficulties that appeared during the first attempts at preparing an effective vaccine.

In 1931 Leslie and Gardner found that not only were there two or more types of colonies but that when the organisms were separated on the basis of their serological reactions, four distinct phases were identified. Phase I organisms, which produce "smooth" type colonies, were later found to be the most virulent of the types and the only one capable of bringing about effective immunity when used as a vaccine.

In the preparation of the vaccine on a large scale it has been difficult, until a few years ago, to prevent the dissociation of the organism in the culturing process. Frequently not all of the organisms grown would be of Phase I and the vaccine would consequently vary in its ability to produce immunity. This difficulty has been largely overcome. In the North Carolina State Laboratory of Hygiene for each lot of vaccine to be prepared six cultures are

selected which have been recently isolated from whooping cough patients and which show certain biological characteristics according to five laboratory tests. Flasks of solid media are inoculated and incubated. The colonies are then washed from the media with salt solution, washed again and suspended in salt solution containing merthiolate in a concentration of 1:10,000. Sterility and safety tests are carried out and the concentration of the vaccine adjusted so that each cc. contains 10 billion organisms. At present, agglutination with a specific anti-serum and the agglutinin response of rabbits to injections of the vaccine are used as potency tests. A mouse protection test that can be standardized more accurately may be available in the near future as an additional potency test.

Recent work has shown that pertussis vaccine when precipitated by alum can produce a satisfactory immunity in somewhat smaller doses than with the plain vaccine. This fact is probably due to the relative slowness with which the alum precipitated material is absorbed. There is also reason to believe that the action of the protein or other antigenic material in the organism is enhanced by the use of alum. The combination of pertussis vaccine with alum precipitated diphtheria toxoid was a logical consequence, therefore,

and has been shown in the first studies to be **practical and effective**. Since diphtheria toxoid is not administered to children until after the sixth to ninth month, the pertussis and diphtheria mixture cannot be used to immunize the age group between one and six months during which time approximately 40 per cent of all whooping cough deaths in this state occur.

The immune bodies produced by the injection of plain or alum precipitated Phase I pertussis organisms are of two general types, namely, antibacterial and antitoxic. Toxin derived from cultures of the organism has been used in the preparation of a toxoid, as has been done with diphtheria toxin. It is generally accepted at present, however, that the **antibacterial protection** afforded by the injection of the killed organisms is more efficient, either alone or in combination with the toxoid, than is that produced by the toxoid alone.

The antibacterial antibodies in immunized children have been demonstrated by complement-fixation, by agglutination, by the mouse protection test, and by other means. Protective antibodies demonstrated by the mouse protection test have been found to appear approximately twenty days after immunization and to reach their maximum concentration between one and two months after the injections. These antibodies were still present in some children fifteen and a half months to four years later. Complement-fixing antibodies were demonstrated to attain a maximum concentration within one month but to disappear within three to four months after vaccination. Agglutinins in most of the children studied reached a high point shortly after vaccination. Neither the agglutination nor the complement-fixation tests have in all instances provided an accurate index of immunity, since they have been found significantly positive only occasionally following attacks of the disease when the protective power of the sera of the same group of individuals was found to be high by other means.

Pertussis toxin and the killed bacteria have been studied to determine their usefulness as skin test antigens. Since pertussis vaccine contains very little pertussis toxin, practically no antitoxin is produced in an individual immunized with the vaccine. Only the sera of persons who have recovered from the disease or who received pertussis toxoid showed antitoxic activity as demonstrated by skin testing with purified toxin in these studies. The antigen containing no toxin but merely the bacterial agglutinin in the purified state was used in a skin test to determine the degree of immunity resulting either from a case of the disease or from the injection of the vaccine. This latter test needs to be evaluated to determine whether or not it is suitable for wide-scale use to determine the success of pertussis immunization just as the Schick test is used to confirm immunity following the injection of diphtheria toxoid.

Another important observation that has been made in studies on the appearance of immunity as shown by serological tests is the fact that "booster" doses of the vaccine stimulate rapidly an increase in existing immunity produced by vaccination. The use of "booster" doses has been recommended as a practical procedure for stimulating immunity in older children who were vaccinated early in life.

Review of Certain Aspects of Field Immunization Studies

The problem of the protection from death from whooping cough of the children in the age group one to six months has not been satisfactorily considered in field studies completed to date. Only two reports available deal specifically with the problem. Sauer, who did much of the original work on preparation of the vaccine with Phase I organisms, made a study of the immunity response to injections of the vaccine in a group of infants under three months of age. These infants withstood the injections of 10 billion organisms in a single dose as well as or better than children in older age groups. The vaccine was not standard in all cases in this study but a definite lowering of the attack rate of the disease resulted.

No deaths from whooping cough were observed in the series. The degree of immunity produced, however, was considerably lower than in a group of older children vaccinated at the same time.

A more recent study carried out in Louisiana by Treuting and others showed definitely favorable results in the age group one to six months as far as protection from mortality is concerned, although protection from the disease itself was not as efficient as in the older groups.*

As far as the success of immunization programs of older children is concerned much favorable evidence has been compiled. There is no need for reviewing this material here since wide acceptance by the medical profession of the value of the procedure has taken place; however, certain details of two or three studies are of interest in planning a control program for this state.

In a study by Kendrick, using the alum precipitated diphtheria toxoid and pertussis vaccine combined, whooping cough appeared in unvaccinated children approximately ten times more frequently than in vaccinated children. The disease when it did appear in the vaccinated group was usually mild.

The success of vaccination in protecting family contacts of whooping cough cases is shown by data analyzed by a committee of the American Public Health Association. In a group of 4,212 children between the ages of eight months and five years whooping cough was reduced by 60 per cent in the vaccinated group of family contacts.

The dosages used in the field studies have varied but a committee of the American Academy of Pediatrics has recommended the use of 7cc. of the plain vaccine containing 10 billion organisms per cc., or of 1cc. given in divided doses over a period of four to eight weeks of the alum precipitated vaccine containing 40 billion organisms per cc.

Studies are now being carried out relative to the use of a two-dose schedule of the combined alum precipitated diphtheria toxoid and pertussis vaccine for the production of immunity during the period from six months

to school age, with the possibility of giving an additional dose on entering school. If a skin test can be developed it would provide a means of determining which children needed this additional injection.

Certain Considerations Pertaining To Pertussis Immunization In This State

As given previously, the mortality records for the ten-year period, 1931-1940, show that of the 2,198 whooping cough deaths that occurred, approximately 900, or over 40 per cent, occurred in the age group below six months. Figure 1 shows the age distribution in months of deaths of children under one year for the period 1941-1943.

This large group of infants deserves special consideration in planning a program that will be as effective in reducing whooping cough mortality as the diphtheria control program has been in reducing diphtheria mortality. The children in the age group over six months in which 60 per cent of our deaths occur can easily be protected by the vaccine. The children below six months, however, do not develop an equivalent immunity with the same dosage of vaccine, and the immunity that does develop is of shorter duration.

In spite of the relative inefficiency of the vaccine in this group immunization by use of the vaccine still remains the only specific preventive that can be administered before exposure occurs. After exposure hyper-immune serum, when available, can be used for passive immunization and even treatment, with considerable success. Fortunately, a partial solution of this problem can be seen in the following fact: although protection by vaccination from actually contracting the disease cannot be as effective in the younger group as the older group, protection from death is fairly effective. This was brought out in the studies previously mentioned. Sauer reported no deaths in his series. Treuting reported a definite reduction in mortality.

Therefore, vaccination at as early an age as possible, even under three months, would appear to be a valuable procedure in this state during the next few years for providing protection against death from whooping cough

for young infants, the protection from morbidity being merely a secondary consideration. Since "booster" doses have been shown to be effective in increasing immunity previously produced by vaccination, these young infants should be reinimmunized when they reach the age group over six months. The development of the alum precipitated diphtheria toxoid and pertussis vaccine mixture would provide an ideal means of administering the booster dose of whooping cough vaccine at the same time the diphtheria immunization is carried out; that is, at approximately nine months.

Since deaths from tetanus are only one-sixth those from whooping cough it would be preferable to use the diphtheria-whooping cough mixture, if it becomes available, in place of the diphtheria and tetanus toxoids now in common use. There is no reason to believe, however, that a triple mixture of diphtheria and tetanus toxoids, and whooping cough vaccine would not be practical.

Should the skin test prove to be satisfactory it would be suitable for use at the same time the Schick test is given; that is, six months after the diphtheria-pertussis immunization and again at the preschool age. If immunity was found to be low for either diphtheria or pertussis as shown by the test, a "booster" dose of the "D.-P." mixture could be administered.

In order to bring the urgency of the need for pertussis immunization before the public, a state-wide whooping cough immunization law requiring immunization of all children before the age of one year should be seriously considered. The passage of the diphtheria immunization law in 1939 was followed by an immediate improvement in the rate of decline of that disease.

As was shown in a previous article the majority of cases of whooping cough appear between one and nine years. This is the age group in which the most effective results can be obtained in reducing attacks of the disease as well as deaths. By means of a state-wide immunization program the incidence of the disease in this group can be so greatly reduced that exposure of infants

under six months will be rare. Exposure of **children** of this age takes place chiefly from family contacts so that by the elimination of whooping cough in the siblings a protective wall of immune individuals can be built around each infant. When this point is reached immunization of children under six months can be safely delayed until the sixth to twelfth month when the vaccination would result in a highly effective protection from illness as well as death from the disease.

There is every reason to believe that in North Carolina whooping cough deaths can be reduced practically to zero as is already the case in areas of other states.

SUMMARY

1. Whooping cough is at present a serious communicable disease problem in North Carolina.
2. Approximately 40 per cent of the deaths occur under six months of age in this state so that any control program should include this group.
3. An immunizing agent is available for the age group over six months for the highly effective prevention of mortality and morbidity, and for the age group under six months for the fairly effective prevention of mortality.
4. Children should, for the present, be immunized against whooping cough as early as possible, preferably under two or three months, should receive a booster dose of the vaccine at six to twelve months, at the same age diphtheria immunization is carried out, either from or in combination with diphtheria toxoid if the alum precipitated diphtheria toxoid-pertussis vaccine mixture is available.
5. By the widespread vaccination of all age groups for the next few years, possibly as required by a state law, a reduction in the incidence of the disease can be brought about so that exposure of the age group under six months will be sufficiently infrequent to permit the delay of immunization in this group until the more efficient immunizing age of six to twelve months is reached.
6. North Carolina can eliminate whooping cough as a leading cause of death among the communicable diseases.



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 Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
 Instruction for North Carolina Midwives.

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CARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

Nutrition - An Allied Responsibility

By CARL V. REYNOLDS, M.D.

Chairman of the North Carolina State Nutrition Committee

THE question, "Am I my brother's keeper?" no longer can be evaded by any member of a well-ordered society. The day of moral isolationism has gone, whether we like it or not. The difference between man and the lower animals is that man's reactions are more than defensive; he must assume a protective attitude toward his fellow beings, especially the less fortunate.

In order to better acquaint readers of the Health Bulletin with the organization and functioning of a group which has as its purpose the protection of the population as a whole, this entire issue is devoted to a consideration of some of the activities and purposes of the North Carolina State Nutrition Committee, through a study and interpretation of reports and recommendations made at a meeting in Raleigh on November 29th and 30th.

This group, representative of the State Department of Agriculture, Agricultural Extension Service, Education, Health, and Welfare, the Federal Farm Security Administration, and many voluntary organizations, such as the State Medical Society, the State Dental Society, Parent-Teacher Organizations, the American Red Cross, Home Economics Women in Business, Women's Clubs, and others, has as its ultimate objective the promotion of better nutrition for all groups. Its program is broad in scope, dealing not only with the selection, preparation and consumption of the right kinds of food for the promotion of health, but also with the production, proper handling, and the preservation of such foods, all of

which must be taken into consideration in any program of the character sponsored by the State Nutrition Committee.

We know that adequate nutrition involves problems of a very diverse nature, and it is because of this that the Committee is made up of so many representative groups, each of which is in a position to make valuable contributions to the general program.

Adequate nutrition involves labor, farm machinery, food production quotas, food distribution, rationing, proper storage, nutrition education, and also the study, diagnosis, prevention and treatment of specific dietary deficiencies. The problem requires workers who are trained in the fields of agriculture, education, welfare, home economics, conservation, medicine, public health, industry, hotel, restaurant, cafe and grocery management, perhaps others. It is obvious, therefore, that only a cooperative program, in which all official and voluntary agencies actively participate, can be expected to result in maximum improvement in the nutritional status of all our people. For this reason the cooperation of everyone is earnestly solicited, and it is hoped that no committee representative, whether he belong to an official or a voluntary organization, will have any hesitation in helping to promote the work of the Committee, some of the recent accomplishments and future objectives of which are set forth in this issue of the Health Bulletin.

Readers of this issue of The Bulletin will note that committee reports were made on two separate days. The reports made on Nov-

ember 29 were by chairmen of standing sub-committees of the North Carolina State Nutrition Committee. These were designed to review past and current activities of the Com-

mittee. Whereas, those rendered on November 30 were by working committees appointed the previous day to map out plans for future action.

State Nutrition Committee Holds Two-Day Conference

THE North Carolina State Nutrition Committee convened in the auditorium of the State Laboratory of Hygiene, Raleigh, November 29, for a two-day meeting.

The opening session was called to order at 10.30 A.M., by Dr. Carl V. Reynolds, Chairman, who presided. He extended to the members, from all parts of the State, a cordial welcome, and reminded them that this committee, representing approximately 30 agencies, devoted to human betterment, is a clearing-house for service, with no one agency or individual clamoring for honors.

Dr. Reynolds presented Dr. John F. Kendrick, who addressed the Committee briefly. He outlined the duties of the State Nutrition Committee, giving the background of its organization and tracing the progress of its work up to the present time.

Chairmen of sub-committees then reported. Brief discussions followed each report.

John W. Goodman, of the North Carolina Agricultural Extension Service, gave the report on Food Production, followed by a report of the sub-committee on Food Conservation, by Mrs. Mary L. McAllister, also of the Agricultural Extension Service.

In the absence of Miss Catherine Dennis, Dr. Bertlyn Bosley of the State Board of Health, reported for the sub-committee on Nutrition Education. Dr. D. F. Milam, of the State Board of Health, gave the report of the sub-committee on Nutrition Research.

The report of the sub-committee on school lunches was given by Mrs. Louine Moore, of the State Department of Public Instruction, after which Miss Phyllis Yates, of the North Carolina Experiment Station, reported for the

sub-committee on publicity, in the absence of Mr. F. H. Jeter, Committee Chairman.

The State Nutrition Committee requested that summaries of the various sub-committee reports be sent to all committee members for study and guidance.

Mr. Ralph Scott, Chairman of the Alamance County Nutrition Committee, was recognized. He told of the activities being carried on by that committee including contacts with key persons and organizations designed to carry the gospel of nutrition into the homes and schools, and also the places of employment, of the people.

Mrs. Stella R. Cusick, Executive Secretary of the State Nutrition Committee, gave a report of her activities since beginning work with the State Committee. She urged the necessity for the adoption of a program that would insure an active organization in every county of the State.

At the conclusion of Mrs. Cusick's report. Chairman Reynolds recognized Miss Gladys Knight, of the War Food Administration, and Miss Beatrice Fehr, representing the American Red Cross.

Mr. Hillman Moody, of the War Food Administration, informed the Committee that for the present school year the allocation of WFA funds to North Carolina for reimbursement to schools for lunches is \$1,888,640.00; that to December 1, or through November, schools approved numbered 835. He advocated asking the State Legislature for additional funds for administrative purposes.

Dr. J. Henry Highsmith, of the State Department of Public Instruction, explained that one reason more schools were not availing

themselves of funds for school lunches was that the program this year was late in getting started. Mrs. Louine Moore added that many schools are not spending the money available.

Chatham was cited as a model county in the matter of furnishing school lunches. These, it was pointed out, are available in that county at five cents each.

Chairman Reynolds declared that he considered the matter of adequate school lunches one of our greatest problems at this time; that, with nearly \$2,000,000.00 available, there was no excuse for so little food going into the bodies of malnourished children in attendance upon the public schools. No red tape should be allowed to stand in the way, he declared.

Dr. C. Horace Hamilton, of State College, suggested that information be sought regarding Selective Service rejectees, with a view to securing a breakdown of the figures as to the various causes, also as to the number of rejections in various regions of the State. Dr. Hamilton felt that some of these rejections were made on account of conditions arising from nutritional deficiencies.

Chairman Reynolds said that by all means he thought the published report concerning rejectees should be challenged, in order that it be clarified.

Prior to adjournment for lunch, Dr. John F. Kendrick announced the various committees, which were to go into session during the afternoon, assigning a meeting place to each.

At 6:30 the Committee met at the Raleigh Woman's Club for a dinner meeting, when the presiding officer, or toastmaster, was Dean I. O. Schaub, of State College, and the guest speaker Dr. E. J. Lease, of Clemson College, South Carolina. Dr. Lease spoke on the Enrichment program.

November 30

The committee held its second general session November 30, beginning at 10 A.M., Dr. Clyde A. Erwin, State Superintendent of Public Instruction, presiding. The main order of business was the submission of reports by the working committees appointed the previous day. These were followed by open discussions.

Reporting for Committee No. 1, Miss Anna

Cassatt, of the State Department of Public Welfare, recommended that the State Nutrition Committee act as a steering, fact-finding and follow-up committee, its general objective being to disseminate information and to stimulate good nutrition habits and practices.

Chairman Erwin, speaking in his official capacity, gave his unqualified endorsement to the school lunch program.

Emphasizing the value of school lunches, Dr. Erwin pointed out that approximately 360,000 North Carolina children are transported to and from school every day in buses. Many of these, he said, have to ride for long distances. Some eat hasty breakfasts, in order to be off to school on time, while some return home to scanty evening meals. "It is obvious," he concluded, "that these children need warm, nourishing food at lunch time, as some are none too well fed at home."

The report for Committee No. 2 was given by Miss Gertrude Drinker, of the Farm Security Administration. It contained recommendations on how the State and Local Nutrition Committees can assist industry in a nutrition program. It recommended that channels now established be used to get the proper information to those engaged in industry, and through them, to the homes they represent.

For Committee No. 3, the report was made by Mrs. Mary W. Thrasher, of the State Board of Health. It dealt with nutrition education, and it also stressed the importance of adequate school lunches, drawing from Chairman Erwin additional comments of endorsement.

Dr. W. J. Dann, of the Duke School of Medicine, reported for Committee No. 4, the report dealing with how the State Nutrition Committee can help promote effective research. The crux of the matter, Dr. Dann declared, is how to get better food eaten by more of our people.

It was recommended that a research committee be appointed to which the State Nutrition Committee may refer inquiries, with a view to having these promptly and properly answered.

Mrs. Louine Moore, reporting for Committee No. 5 on the establishment of school lunches and their effectiveness in regard to food values, attractiveness, participation by all children, inspired the introduction of the following resolution by Dr. G. Howard Satterfield, of State College:

"that the State Nutrition Committee request the appropriation committee of the State Legislature to provide adequate funds for conducting the work of the said committee."

This resolution was unanimously passed.

Chairman Erwin and others voiced opposition to the sale by adjacent stores of carbonated drinks, candy, etc., which, when purchased by school children, prevent them from eating regular nutritious lunches. Dr. Erwin, speaking as State Superintendent of Public Instruction, declared that principals have the right to forbid children to leave school grounds to make these outside purchases; that no legislation is necessary to enforce this.

Mr. R. L. McMillan, State Director of Civilian Defense, warmly commended the State Nutrition Committee for the spirit of cooperation it has shown. He declared there was little concern about what particular agency does this or that, the main objective being what the committee as a whole is seeking to accomplish rather than the acquisition of individual or group kudos.

A feature of the concluding session of the State Nutrition Committee was a talk by Dr. Margaret Edwards, in which she reviewed the various reports that had been submitted, making pertinent observations and recommendations.

Altogether, the two-day meeting of the Committee was the most comprehensive yet held. Reports and discussions showed that much work has been accomplished and that an efficient organization has been established.

William H. Richardson
Secretary.

Reports of Standing Sub-Committees

Following are the Reports of the Standing Sub-committees of the North Carolina State Nutrition Rendered November 29, 1944

FOOD PRODUCTION

By John W. Goodman, Chairman

Since it is recognized that a good diet must include adequate milk, poultry, eggs, meat, fresh fruit and vegetables, the sub-committee on Food Production makes the following recommendations:

1. That continued emphasis be put on the production of these foods by all groups and agencies making up the State Nutrition Committee.

2. That interest in year round gardens be increased, giving special attention to the production of green and yellow vegetables. Where space is limited careful consideration should be given to the growing of vegetables which insure the greatest return in terms of food values, for instance corn requires a great deal

of space, whereas vegetables like green leafy vegetables and yellow vegetables supply abundant food value for the space used in producing sufficient quantities for use as fresh, canned and stored vegetables should be provided.

3. That more emphasis be given to the production of an adequate supply of milk by stressing more adequate feed, including permanent pastures and better care of the family cow. We should also stress among urban families the use of an adequate supply of milk.

4. Sufficient quantities of poultry, eggs and other meats should be available, home produced as far as practical.

5. Information on the production of these foods is available in bulletin form in the offices of both county and home agents.

County Agents, Home Agents, Vocational Agriculture teachers and others are technically

trained and can give advice about the production of these foods. Their help should be used by all groups.

This sub-committee and the State Nutrition Committee as a whole desires to emphasize at this time the marked superiority of fresh home grown vegetables and fruits over those obtained in the markets. The home grown product comes to the table without loss of natural nutrients, whereas even the best market products suffer some loss through aging, drying or the process of handling. Home production, therefore, should become a permanent practice and not one to be discarded at the termination of the war.

FOOD CONSERVATION

By Mary L. McAllister, Chairman

Food Conservation was considered in its broad sense as it relates to the retention of nutritive value, every day use of food, harvesting, buying, storing and all methods of preservation.

After a general discussion of the problems presented by committee members it was agreed that work should be done in educating the public regarding waste of food in buying habits, storage of foods in the home refrigerator or other storage spaces, leaving foods unharvested or improper methods of harvesting, waste of foods at mealtime, waste of nutritive values and waste of foods due to improper preservation methods.

Each member of the committee was asked to direct various phases of the committee program.

Miss Brewer was asked to plan the program for college students.

Miss Mobley and Miss Allen were asked to prepare materials on waste of foods due to improper storage in the refrigerator—giving recommendations for proper storage.

Mr. Harris will direct the work on proper storage of products from the fall garden or orchards.

Miss Jenkins is to make plans for the school's part in teaching conservation of foods.

Miss Yarborough will work on the materials for the Farm Security or low income group of people.

Dr. Jones and Mrs. McAllister will undertake work on food preservation methods.

Mrs. James and the Negro Specialist will direct the program with Negroes.

NUTRITION EDUCATION

By Catherine T. Dennis, Chairman

Each representative gave a brief resumé of the nutrition services offered by his agency.

Weaknesses in the nutrition education program were discussed and a few of those most apparent are listed:

1. We are not reaching and convincing the greatest possible number of people.
2. We are not using effective methods with all groups.
3. We are not adequately interpreting the program to the public.
4. Lay leaders need better nutrition training.
5. There is insufficient coordination of programs so that all people can be served.
6. We need to reach the masses with simple, practical materials and information.
7. Nutrition education committees on the local level need to assume greater responsibility. This indicates a need of assistance from those at the state level.
8. Necessary assistance is not being provided Industrial groups. Representatives of Industry should be active members on both state and local committees.

Recommendations for meeting these needs were:

1. That a plan for nutrition education be made, contemplated to reach all groups both white and Negro.
2. That nutrition education methods be improved. This involves a study of present methods used and plans for more effective techniques.
3. That institutions feeding a number of people should have trained dietitians or nutritionists on their staffs.
4. That Industrial plants, especially those employing 250 or more workers, employ nutritionists to carry on an educational program among the workers and their families.
5. That more nutrition be included in

the basic training of teachers, health officers, dentists, nurses and social workers with practical applications in actual situations.

NUTRITION RESEARCH AND ITS PUBLIC HEALTH APPLICATION

By D. F. Milam, M.D., Chairman

The Committee on "Research and Its Public Health Application" makes the following report on nutrition research activities in the state and the bearing of this work on a practical program of nutrition improvement.

The science of nutrition is the foundation on which the superstructure of application of the principles of dietetics is based, and this science is not a closed book. It is rather a rapidly developing affair. The gaps in our knowledge of nutrition are many and great and knowledge of the affects of various nutrients or lack of them on our bodies is one of the least complete parts of our information. In projecting its activities along the lines of improved nutrition, the State Nutrition Committee should keep its program within the bounds considered valid by the best of nutrition science at the present time. There are interests, whose influence might sway a program beyond that of well grounded scientific facts and it is therefore quite necessary to keep abreast of the results of nutrition research. Keeping up with developments in this field is quite a chore in itself. This State Nutrition Committee in particular is interested in and concerned with nutrition research that comes out of agencies in the state of North Carolina. A brief summary of some of this recent work is reported here.

The Cooperative Nutrition Study, housed at Duke University, and supported otherwise by the State Board of Health and the Rockefeller Foundation, has carried forward field surveys of nutrition status of populations for the past five years. Three counties, Chatham, Wayne and Alamance, have been the scenes of studies now completed, and in Orange, a fourth and possibly the last survey of this particular type, is now underway. The results of these surveys have been very informing and frequently surprising. In general, nutrition status has been improved since the com-

mencement of these surveys in 1940, and in the boom years of wartime, nutrition in surveyed rural areas has been, if not satisfactory, at least such as to exclude overt signs attributable to malnutrition in all except the unusual family, and to make untrue the statements that nearly everybody or at least a large percentage of the populations is malnourished. That's a matter of definition. While the dietaries of most families can stand great improvement, it appears that rural people in general are now getting diets sufficiently adequate to prevent the appearance of any definite signs of malnutrition. Where diets are grossly inadequate the responsible factor is nearly always the economic one. This applies to people at home, and not to hospital populations, or other ill persons, nearly all of whom need most careful dietetic management and dietary supplements.

At Duke University Dr. Perlzweig and his collaborators of the Department of Biochemistry have recently discovered and improved a technique for assaying the status of an individual's nutrition with regard to nicotinic acid (or niacin), which is a technique long needed here. This newer method will probably be used in field studies within the coming year. Dr. Perlzweig has also made improvements in the method for assaying nutrition status with respect to riboflavin and thiamin. These improved techniques will also be put to use in the field as soon as practicable.

Drs. Dann and Darby, also at Duke, have greatly clarified our concepts on "the appraisal of human nutrition" in a long review soon to be published in *Physiological Reviews*. In this article is a clear statement of the pitfalls in the way of diagnosis of nutritional deficiency, short of, and I quote, "actual manifest deficiency disease". Individuals in a state of "potential deficiency disease" where some new stress, e. g. illness, could quickly produce actual deficiency disease, and those in a state of "latent deficiency disease" where vague and non-specific symptoms occur, but might have other origin—these conditions and many like them are best handled with improved dietaries to lift their nutritional status along the line,

and not simply in a few vitamin nutrients as indicated by the indefinite but non-specific signs and symptoms.

Drs. Ruffin and Cayer at Duke recently completed a study of the effect of added vitamins to diets of 200 normal individuals getting what is considered a usual normal diet. Individuals getting sugar pills over a period of one month made as much improvement in pep and energy as those getting vitamin supplements. In that study grave doubt was cast on the wisdom of the procedure of having everyone take extra vitamins for superabundant health. That procedure had best be limited to those who are ill or in a depleted state. Dr. Ruffin has also shown recently that hospital patients are usually less completely saturated with B complex vitamins than are non-hospitalized individuals, and that in patients he actually diagnosed as having deficiency disease, this decrease may be quite marked.

There are many other nutrition research activities under way at Duke University Medical school where a quite large group of investigators in nutrition are at work on basic physiological and chemical problems.

It is impossible, in the time for this report, to present information on all the nutrition research projects underway at State College, Woman's College, Bowman Gray, and elsewhere. At State College much work is constantly being carried forward on the better processing and preservation of foods, and, of course, on better production. Also in State College Experiment Station under Dr. Bayer special studies have been and are being carried out on the riboflavin and thiamin determination and content in meats and eggs, and the vitamin A content of sweet potatoes and butter. The research of the Southern Cooperative Cooking Project has been set forth in two progress reports and is still under way. Dr. Satterfield has accumulated much valuable data on the vitamin C content of North Carolina foods. At Woman's College, under the supervision of Miss Margaret Edwards observational projects on the nutrition habits of various groups are constantly being carried out. Recent studies there include 1) the relation

of past and present diets to the physical condition of a group of aged people in a home for the aged 2) a study of the adequacy of diets selected by industrial workers on day and night shifts and 3) several studies of the effects of nutrition teaching on eating habits.

That's the report on research. Now about public health

In the application of research items to practical nutrition, there is usually quite a lag. In some items there is urgent need to decrease this interval between discovery of fact and its application to human problems. We have every reason now to adhere to the principle that group feeding or nutritional advice for normal individuals should be limited to improved diets with the omission of any suggestion for vitamin additions. This does, of course, not include the program of enriched bread. Enrichment of any other food should be looked at with great skepticism (excepting only vitamin D milk for special groups).

There is one lesson to be read from these research items, and that is that for the improvement of human nutrition, better dietaries, and not any drug-store purchases, is the answer. If this program for better dietaries had all the attention and extension that it deserves it could well take the full time of all the employees of government and as many more as could be paid for. Since this is an impossible goal, the next best thing is to have all governmental employees (particularly those whose duties touch health or food science—to have these people use every human contact in their field duties to say a word for the program of improved human nutrition. To do that it is necessary that they be informed and up to date on this subject themselves. And that is a problem in education both "inservice" and out of service. I am very happy to be able to pass this problem on to our Nutrition Education Committee.

SCHOOL LUNCHES

By Louine M. Moore, Chairman

The subject most discussed at this meeting was sanitation. It was felt that there was a definite need for a sanitary code for lunch

rooms. It was decided that sanitary regulations should be met by all schools serving lunches. Since school lunch rooms vary so—one teacher schools to the larger consolidated schools—it was agreed that two codes of sanitation should be drawn up. Mr. Melvin of the State Health Department was asked to prepare such codes to be presented to the Committee. These codes have not been completed as yet.

The Committee also felt that there was very definite need of plans for lunch rooms. Two types of plans were suggested; a plan for building of a new lunch room and a plan for converting class rooms into lunch rooms, these plans to show the proper equipment, its placing and dimensions. Mr. Credle was asked to work on this. He is now working on plans for building new lunch rooms.

The Committee further decided that there was a great need for training workers in proper sanitary practices. Mr. Melvin offered the services of the Health Department in doing this. The County Sanitarians have visited the lunch rooms since the fall terms began. More three-compartment sinks and refrigerators have been put in lunch rooms or purchased for installation than in any single year in the past.

It was pointed out that it was the responsibility of the Health Department to recommend the closing of lunch rooms when the operation endangers the health of the child. Before a lunch room is closed, however, the city or county superintendent will be notified as to existing conditions and he will be given sufficient time to make the necessary changes. All sanitarians are to be notified of this procedure.

Finally the Committee went on record as discouraging the sale of candy, soft drinks and knickknacks, because they tend to destroy the appetite and interfere with the child's selection of a good nutritious lunch.

PUBLICITY

By F. H. Jeter, Chairman

The report of the Publicity Sub-Committee of the State Nutrition Committee may be divided into three parts: Newspaper publicity,

radio publicity and publicity by the distribution of literature.

First of the newspaper articles to be distributed was a story containing Governor Broughton's proclamation, declaring September Nutrition Month. This story was distributed to about 40 state papers, in which it was widely used. It was also accompanied by a dummy of an advertisement sent to the advertising manager of each paper, and by a glossy print of the Basic Seven Chart for use in the papers.

Following this, two stories were sent to all the daily papers in the state. One explained the function of the State Nutrition Committee, and the other pointed out the contents and importance of the Basic Seven Chart.

In addition, a leading article was prepared by the members of the Nutrition Committee and sent to all the papers. Reports show that it was widely used, either in its original form or after proper adaptation.

The second main division was radio publicity. To help with this, the State Board of Health was very generous in donating the time of four of its Saturday broadcasts given by Mr. W. H. Richardson over WPTF to discussions of nutrition month. These broadcasts dealt with the Governor's Proclamation, the basic seven foods, and the results of an inadequate diet. Also, a series of eight broadcasts, prepared by the nutrition specialists, was distributed to the nutrition chairmen in counties in which radio stations are located.

The third type of publicity used in connection with this program was distribution of literature, such as pamphlets . . . 100,000 of which were sent out - - - exhibition material, charts and posters. This material was sent directly from the Washington office for distribution in the field.

EXECUTIVE SECRETARY'S REPORT

By Stella R. Cusick, Chairman

My first duty was to attend a regional meeting of the State Chairmen and Executive Secretaries, which was held in Roanoke, Virginia, the first four days of March, 1944. Much help was gained from the discussions and instructions given there.

Upon our return a meeting of the Planning Committee was called to discuss the outcome of the Roanoke meeting, plans for our own committee and the work of the Executive Secretary.

It was decided to study more closely the membership of the State Nutrition Committee with the view to revising the list and reworking the sub-committees for more effective work.

It appeared to the Planning Committee that one of the first things to be undertaken by the Executive Secretary should be in making contacts in counties with members of the county committees and in conducting meetings of county committees. Such meetings have been conducted in 33 counties and conferences have been held with chairmen and other committee members in 14 counties.

While our record showed that we had an organization in some 95 of the counties not all of these were actively at work and in some of them meetings had not been held since the Food Conservation Workshops of 1943. One of their chief reasons for delaying action was that they had not been told anything specific to do. We have attempted to show them our reasons for not telling them specific things to do and we have offered our services in helping them plan a program to meet the needs of their own people.

The Planning Committee agreed that since more frequent contacts were important and badly needed that field supervisors in a number of the agencies should be responsible for assisting the County Committees as they make their regular official visits. Two counties were assigned to each of the field supervisors of all agencies to cooperate. Discussions were held with these groups to assist them with the plan

to follow. This we feel has been of a great deal of help in counties where supervisors have found the time and opportunity to work with County Committees. We hope that this helpful plan can be more effectively carried out in the future with a larger number cooperating.

In addition to counties visited the State Chairman has felt that it is important for the Executive Secretary to make many contacts both with individuals and groups. This has been done. Some of the groups with whom we have worked, or with whom we have made effective contacts are:

The State Congress of Parents and Teachers; The Nursing Consultants; The N. C. Council of Home Demonstration Clubs; The N. C. Federation of Womens' Clubs; Civic Clubs; N. C. Dietetic Association; N. C. Home Economics Association; Schools; The Radio

Five meetings of the Planning Committee have been attended. We have also had the opportunity of meeting with many of the sub-committees in the State Committee.

A 3 day meeting of the Executive Secretaries was held in Atlanta in October, which was helpful in taking stock of our progress to date and for outlining new plans.

Several days have been spent with the in-plant feeding specialists of the War Food Administration studying their work with Industries.

Arrangement was made for Dr. E. J. Lease, of the Nutrition Department, Clemson College, to spend some time with us giving us information on the Enrichment Program.

Growing out of this we are pleased to announce that Dr. Lease will be the speaker at our dinner tonight.

Reports Of Working Committees

Following are the Reports of Special Working Committees
Rendered on November 30, 1944

STATE AND COUNTY ORGANIZATION

By Anna Cassatt, Chairman

Committee Number 1 of the State Nutrition

Committee, after discussing the organization and goals of State and Local Nutrition Committees made the following recommendations:

That the function of the State Nutrition Committee should be to act as a steering, fact-finding, and follow-up committee.

That the administrative heads urge their personnel to participate in furthering the organization and work of the County Nutrition Committees.

That the general objectives of the State and Local Nutrition Committees shall be to disseminate facts regarding nutrition to all citizens of the State and to stimulate all citizens to adopt good nutritional habits and practices.

That the goals for 1945 shall be:

1. The organization of a Nutrition Committee in each county with an active chairman in each.
 - a. In counties where there is already a Nutrition Committee that this committee be reorganized where necessary to get it actively functioning.
2. That a concerted effort shall be made by all Nutrition Committees in getting an equivalent of a Grade A lunch to be made available in all consolidated and city schools of the state and that at least a supplementary lunch be provided for children attending all of the other schools.
3. That the Nutrition Committee should conduct an educational program to reach into every home. It is recognized that every child should have a good lunch at school.
4. That we as a Nutrition Committee endorse and actively support a program for the enrichment of all refined cereal products and continue to promote the use of whole grain products.
5. That Nutrition Committees shall cooperate in getting well balanced lunches served in Industrial plants and nutrition education to the workers.

NUTRITION

By Gertrude Drinker, Chairman

1. That a proper approach be made to management to discuss with them the nutritional services available through the War Food Administration.
2. That local nutrition committees include

industrialists who may study nutritional needs of the community and plan a program suitable to the needs of their workers.

3. That good radio programs on nutritional needs of industrial workers be given.
4. That committees try to reach more plants and to work with a greater number of small plants.
5. That industries be encouraged to follow recommendations of the Department of Agriculture and the Extension Service on gardening.
6. That full use be made of channels now established in getting better nutrition presented to workers in plants and through them to the homes.
7. That greater efforts be made to coordinate the nutrition activities of all official and voluntary agencies through the respective local nutrition committees.
8. That the word INDUSTRY be broadly interpreted, and that all industries, both large and small, be included in the promotion of better nutrition.
9. That industrialists be urged to participate actively in a nutrition education program for the families of industrial workers.
10. That the State Nutrition Committee appoint a permanent chairman of its sub-committee on Nutrition in Industry.

NUTRITION EDUCATION

By Bertlyn Bosley, Ph.D., Chairman

The Committee on Nutrition Education began its meeting with a summary of the contributions of the various interested agencies and organizations to the Nutrition Education Program in the state.

The Committee set up the following aim for education in nutrition: To get as many people as possible to eat enough of the right food at the right time.

In achieving this aim it was suggested that we must consider existing food habits, economic status, the present knowledge of the people, and the best techniques for developing good attitudes toward the foods that people need to eat.

From this statement of aims and considerations in a Nutrition Education Program the

Committee proceeded to discussion of methods to be used in effecting a program.

I. Schools

The need for more adequate pre-service and in-service training of all teachers in the sciences of nutrition and how to present nutrition to children was brought out. It was stated that the State Nutrition Committee could use its influence in getting colleges to require a nutrition course for all pre-service teachers, but no minimum requirements or definite plans for such courses were made. (It was likewise stated that such a course should be required of all pre-service social workers). Working through the Department of Public Instruction it was agreed that the committee could reach in-service teachers with Nutrition Education Workshops in every school administrative unit in the state. The aim of these workshops would be to give teachers factual information and methods of interpreting this information in the classroom. Two or Three hour sessions, two or three times a week for two or three months was suggested for the time to be given to these workshops, and a suggestion was also made that a workshop using a minimum amount of time could reach more teachers. As a step leading to these workshops a motion was passed that the committee should prepare a brief suggested program to be used, and that this program be made available to those people best qualified to help with the workshops. The cooperation of the Department of Public Instruction in organizing the workshops was assured. It was suggested that social workers, public health nurses, and workers with various services and agencies in the local communities could also take advantage of the training in these workshops. There was a question as to whether these workers should use the same training as that to be given teachers, but need for training was definitely recognized.

The importance of the school lunch as a Nutrition Education device as well as a feeding program was brought out, but the committee left a thorough discussion of this problem to the committee on the school lunch. It was agreed that the topic of school lunches

must be included in the workshop program.

II. Communities

The problem of educating adult groups in the community seemed to be one (1) of organizing so as to reach the most people and (2) deciding what information to give to people and what techniques to use. The part that the Red Cross, Vocational Home Economics teachers, social workers, nurses, the Extension Service, and community organizations, such as Parent-Teacher Associations, and Libraries, can play in the program was discussed. It was agreed that each community presents an individual problem of organization for Nutrition Education. A motion was passed that the committee prepare an outline of (1) suggested schemes for organizing to reach people in the community and (2) what and how to teach the people.

III. Industries

It was suggested that the State Nutrition Committee use its influence in encouraging industries employing 250 or more people to employ nutritionists to work with their employees and their families.

IV. County Nutrition Committees

The need for educating the County Nutrition Committees was recognized.

In conclusion it was suggested that a steering committee be appointed to investigate the tremendous task of setting up a comprehensive 12-year course of study in Nutrition for the public schools of North Carolina.

COMMITTEE ON RESEARCH

By W. J. Dann, M.D., Chairman

(1) The discussion of this committee was around the following points: first, how can the State Nutrition Committee help promote research aspects of nutrition? The discussion suggested that it could, from its knowledge of projects in all groups, point the direction in which research should move and which agencies can most fruitfully undertake each aspect of this work. It could collect information on what is going on and make it available to all. It could inform the several research groups as to what funds could be possibly available for this purpose, that is, serve as a clearing house for this information. The opportunities

for coordinated attack on the nutrition problem by these means were emphasized. The following resolution was passed: "That the State Nutrition Committee (its executive committee) is requested to serve as a receiver of questions regarding nutrition and to transmit these to those who can answer them." The function of this sub-committee as part of the Nutrition Committee to carry out these functions was stressed, but its impermanence, being appointed for today only, was mentioned. The following resolution was therefore submitted and passed: "That this sub-committee or a permanent research sub-committee of the State Nutrition Committee be appointed with membership similar to that of today's group, that it be made a permanent standing sub-committee to carry out the functions of coordination in nutrition research in this state." One other service of the committee was also mentioned, namely that it could inform industrial groups or others where certain types of nutrition information can be obtained or furnish the information itself. There was considerable discussion on cooking methods in institutions, types of cookers most useful and the results of various cooking processes on nutrients in foods as well as taste.

(2) Application of nutrition research to public health was discussed. This involved chiefly getting useful information across to the individual in need of it, for example, the grower. Improved varieties of sweet potatoes and other tubers are available and can be selected to fit the needs of growers provided they are rapidly informed of the results of latest researches. Results of better canning, freezing and drying studies are also pertinent in this regard. Much was made of the Federal program of having a national chairman of each food commodity, who will prepare a digest of information past and present on his commodity presenting the data on production, preservation, etc. regarding it. Such handbooks would be extremely useful and the meetings of those interested in each commodity would serve to disseminate useful information of all kinds regarding it. Particular mention was made of a turnip with high vitamin C con-

tent, a hugh sweet potato of high starch content. The need of local studies of each variety was emphasized.

Relation of soil deficiency to human nutrition was discussed by Dr. Bayer and the deficiencies of certain North Carolina socials mentioned, particularly boron, manganese, copper and zinc.

The school lunch program was discussed at some length as a central item in any nutrition improvement program and the chief item in the public health aspects of nutrition. Food preferences were mentioned as highly influenced by foods available in childhood, this emphasizing the importance of well planned school lunches. The Army life was believed to exert a potentially great effect on future food habits. Dr. Hamilton wanted some effort made to study statistically the effects of the school lunch program.

Industrial feeding was also discussed briefly as a second important public health item. The banning of soft drinks and candies both in schools and industrial plants was mentioned as desirable, if attainable, with substitution of milk as the recommended beverage. Miss Mobley mentioned the great increase in electric bills at school cafeterias due to cooking in improper utensils, for example dish pans. It was repeatedly emphasized that teaching right food habits to school children is an outstanding opportunity and duty.

Dr. Lease discussed the South Carolina program of enrichment of wheat and corn products, emphasizing this as a possible program from which great good results would flow, while much of the discussion of this committee has been on items not easily carried out and therefore of more distant possible benefits. The desirability of the enrichment program in this state was discussed with considerable keenness and both views were well represented. No agreement was reached by the committee.

The following resolution was passed by the committee: "The enrichment program when it comes up before the legislature in this state should be referred to the State Nutrition Committee and its subcommittee on nutrition

research as an advisory group." The discussion emphasized the point that the enrichment program will carry nutrition improvement only a short way since deficiency diseases are not uncomplicated but multiple and that an individual living on a yearly income under \$200.00 could not get an adequate diet even with enrichment of his cereals. The enrichment program is to be regarded as just a help and not a cure-all. The question of desirability of legislation in North Carolina for enrichment was brought up as also the question as to whether or not an enrichment program might decrease the possibility of getting a long extraction flour generally in use.

(3) A further resolution was passed as follows: "This sub-committee recommends to the State Nutrition Committee that it explore all agencies for possibility of increasing better nutrition in schools, homes and industries."

SCHOOL LUNCHES

By J. S. Waters, Chairman

Much time was spent in the discussion of the question "How can the Nutrition Committee function as to participation in school

lunch program?"

It was recommended that a study be made by the Nutrition Committee through the principal and teachers of each school to determine the following points:

1. The percentage of children eating in the lunch room.
2. The percentage of children bringing lunch from home.
3. The percentage of children having no lunch.
4. Number of free lunches that should be served.
5. The type meals or menus served in the lunch room.
6. The price charged for lunch.
7. The facilities (space and equipment) for preparing and serving lunch.
8. Are foods other than the school lunch available at lunch time? At little recess?
9. Are students allowed to go to near-by stores to make purchases?

When this study has been made the Committee should know the facts and can then take the necessary steps to handle the particular problem.

Enrichment In Practical Nutrition

Resume' of Address by DR. E. J. LEASE,
Clemson Agricultural College,

Delivered at the Raleigh Woman's Club on the evening of November 29.

THE word "Enriched" has been popularized recently but enrichment has been practiced for generations. Long ago poultrymen found that by enriching their feeds with limestone, cod liver oil, etc., they were able to produce healthier chickens that were more resistant to diseases. Chickens fed this "Enriched feed" grew better and, therefore, poultrymen recognized enrichment as practical. Today poultry feeds are enriched with cystalline riboflavin, vitamin D, calcium compounds, manganese compounds, and many other ingredients. Baby foods such as Pablum and Gerber's have been enriched with vitamins and minerals for many years. The enrichment of oleomar-

garine with vitamin A has been practiced a long while in Europe and America. Iodized salt is really salt that has been enriched by the addition of small amounts of potassium iodide. In the broadest sense of the term, the sprinkling of salt on meat at the table is an enrichment process whereby the meat is enriched with a mineral needed and craved for by the body.

The South Carolina Nutrition Committee was interested in enrichment from the beginning of the program because it offered a means of promptly making a contribution toward improvement of the diet of the mass of the people. In discussions of the food value of

cereals consumed in appreciable quantities by the average American, comparisons should not be made between whole wheat flour and enriched white flour. The comparison should be between enriched and non-enriched white flour, for it is the non-enriched white flour that is to be condemned and improved a bit by enrichment. Unfortunately white flour and white bread are used in very much greater quantities than the whole wheat products. Nutrition leaders should continue as they have for many years to advocate the use of whole wheat bread. However, if the public insists on white flour and white bread, we should take such action as is necessary to assure the public that these commonly consumed foods have as high a nutritional quality as can be made under practical conditions.

Elderly people often ask, "How did our grandparents get along without enrichment?" It is to be remembered that eighty years ago the foods consumed were less refined and therefore of higher vitamin and mineral potency. The flour was an unbleached whole-ground product with perhaps part of the big pieces of bran screened out. Our grandparents consumed rice which contained considerable brown hulls and nutritionally valuable outer coats known as polishings. Their grits were made from whole-ground corn, while today ours are made from the degerminated, starchy endosperm portion of the corn kernel. Today

the average American uses 100 pounds more sugar per year than did his grandparents eighty years ago. These changes all contribute to making the diet more dilute in essential nutrients. Enrichment of refined foods tends to correct this undesirable trend.

The reason we enacted enrichment legislation in South Carolina was to get the cheapest brands of family flour and bulk grits enriched. These staples are consumed by those most needing the enrichment. The highly advertised fancy package goods would probably be enriched without the law, but not the less expensive foods. Pearl grits are especially low in vitamins and minerals, in fact lower than white flour or rice. Grits can easily be enriched under practical conditions by a use of a premix which does not lose its vitamin content when the grits are washed before cooking. Several mills are now enriching grits, and the industry favors enrichment.

The South Carolina Nutrition committee met with the Agricultural committees of the Senate and House of Representatives and discussed the proposed Bills. Cooperation was sought from the industries concerned and little opposition was encountered. Nevertheless much work was involved in educating the interested parties as to the reasons for the action and how the law could best be administered. The Committee feels that the nutritional improvement brought about was well worth the effort.



Education has been the chief weapon used to gain all past victories against tuberculosis. Education must continue to be the chief weapon. No drug has yet been found to cure tuberculosis in spite of long sustained and extensive medical research.



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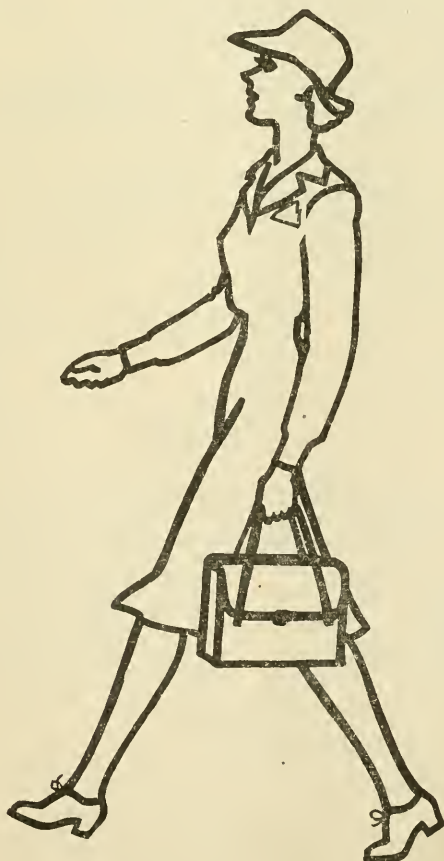
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The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Sanitary Privies
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SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters.)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother.	Diet List: 9 to 12 months; 12 to 15 months;
Breast Feeding.	15 to 24 months; 2 to 3 years; 3 to 6 years.
Infant Care. The Prevention of Infantile Diarrhea.	Instruction for North Carolina Midwives.
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Changing Emphases In Public Health Nursing*

By

PEARL McIVER, Senior Nurse Officer (R), Chief,
Office of Public Health Nursing, U. S. Public Health Service
Washington, D. C.

MOST of us assume that health programs will expand greatly during the postwar period. These assumptions are based upon the belief that:

1. Full employment and a high national income level will be maintained throughout the nation.
2. An increased number of our citizens (both military and industrial) will have developed an understanding and appreciation of the value of adequate health services.
3. Federal-State cooperative relationships will be maintained and strengthened.
4. There will be general agreement with regard to the statement that prevention and treatment are two phases of the same problem.
5. Private and public enterprise will be integrated but both shall continue to function.

Public health nursing gains since World War I have kept pace with the general expansion in public health activities. As a matter of fact, public health nurses now outnumber all other workers in the health field and yet the minimum ratio of nurses to population recommended by the Committee on Administrative Practice of the American Public Health Association has been reached by only nine states. Health departments today recognize that public health

nurses are needed to translate into practice virtually every type of public health services. As the scope of all health programs expands, additional functions will be added to the responsibilities of the public health nurse. How will these increased responsibilities be met and where will the emphasis be placed in future public health nursing developments?

Program Emphases:

Every community needs public health nursing service for three basic purposes. These are:

1. The prevention and control of disease.
2. The care of the sick in their homes.
3. Family health counselling or what has been called health supervision or health teaching.

In the future, health departments will be concerned with any disease which is a major cause of disability or death. Those diseases which yield to known control procedures will no doubt be given precedence but the degree of communicability will not be the primary determining factor, as has often been true in the past. In some communities routine activities in an attempt to control measles and chicken pox have consumed much valuable time of the nurses which might have been spent more profitably on rheumatic heart disease; cancer or diabetes. The availability of

*Read before The North Carolina Public Health Association, October 31, 1944, Raleigh, North Carolina.

more accurate diagnostic procedures and facilities will make the nursing follow-up of such diseases as tuberculosis and syphilis more effective. Many of the nurses present have had the discouraging experience of making routine visits to "suspected" tuberculosis cases over a period of months or years until the death certificate finally confirmed their "suspicions." Likewise, many nurses have worked diligently to persuade a prenatal case who gave a history of numerous still births to go to her doctor for a blood test only to have her go to the doctor and be told that "blood tests were not for the likes of her," and she returned home to give birth to another still born child. Better medical facilities will make public health nursing much more purposeful and effective. The public health nurse of tomorrow will analyze her case load carefully, and armed with complete medical diagnosis and instructions, she will direct her efforts directly towards the source of the problem.

Public health nursing originated as a bedside nursing service for the sick in their homes. Some public health nurses have out-grown their usefulness in this field. If we accept the premise that prevention and treatment represent two phases of the same problem, then the problem is only half solved when we limit our service to prevention. Likewise, the early public health nurses found that nursing care without preventive measures would not solve the whole problem either. The qualified public health nurse is equipped and has a marvelous opportunity to use both of these weapons—prevention and treatment. In large cities, voluntary visiting nurse associations working co-operatively with the official health agency have met the nursing care needs. A number of smaller cities have worked out satisfactory amalgamations of services and are rendering a complete service under the administration of the official health agency. Very few, if any, strictly rural health departments offer such a program. From an economy standpoint, it would seem that bedside nursing services should be an integral part of the rural health department program rather than to establish separate organizations for that purpose. Within

the next year the Public Health Service expects to cooperate with four or five rural health departments which have fairly adequate preventive nursing services, in order to study the administration of a complete nursing service including bedside nursing care. Some of the questions which will be answered by such studies are:

1. How many additional nurses must be added to a staff which already meets the minimum requirement of one nurse to 5000 population if a bedside nursing service is added?
2. Do all of the nurses need to be especially prepared public health nurses or can senior cadet nurses, veteran nurses without public health preparation or even licensed practical nurses be used if they serve as "nurse assistants" to a qualified public health nurse?
3. How much bedside nursing care should be made available to all citizens through tax funds?
4. Is there a point where additional nursing care ceases to be of public health value and becomes a mere convenience for a limited group of the population?
5. Should the health department accept fees for such service if the patients are able to pay?

If through a limited number of field demonstrations and studies, accurate answers to the above questions can be secured, it is believed that appropriating bodies will not hesitate to support such a program. The Conference of State and Territorial Health Officers has endorsed the promotion of more bedside nursing in official health departments. Verbal support is not enough. The time has come when this activity must become common practice if generalized public health nursing is to be what its definition implies.^{2/}

Health counselling or health supervision has always been an important function of health department nurses. The effectiveness of their teaching has sometimes been questioned, probably because they have done too much "tell-

^{2/}A generalized public health nurse is one who renders all types of public health nursing services needed by the people in a certain geographic area.

ing" and not enough "doing." The Chinese say: "You hear a thing and soon forget it. You see it and remember half. You do it yourself and remember all." The public health nurse has unlimited opportunity for health teaching and if she integrates that teaching with a service to the family which is recognized and wanted, her teaching begins to show results. The health educator, a valuable addition to our health team, will supplement the health teaching of the public health nurse but will never replace her type of teaching. To me, the health educator becomes the "John the Baptist" of the health department. She prepares the way and stimulates the opportunities of the other members of the health department for health instruction. The health educator and the public health nurse can and will be mutually helpful to each other.

Volume of Service Needed:

While the number of public health nurses increased greatly from 1920 to 1940, there has been no increase since 1940 even though war time problems have increased the demand for more service. The 1944 Census of Public Health Nursing shows that only nine states have reached the minimum war time standard of one staff nurse per 5000 population. If the public health nursing program is to meet fully the needs for nursing care, as well as the preventive and educational services, we shall need three times as many public health nurses as are now available. Fortunately the cadet nurse program has been successful and within a few years an adequate number of nurses should be available. Some commentators have suggested that nursing schools have admitted too many students and that there will be an oversupply of nurses when the war is over. However, we have never had enough nursing service when the available supply is compared with the needs for nursing care. There has been an oversupply when the number available was compared with the ability of individuals to purchase necessary nursing care. Our emphasis in the future must be on furnishing adequate nursing care on the basis of patient need and not on individual ability to pay for that care. Adequate public health

nursing care will require an appropriation of from one to one and a half dollars per capita. Our post war public health budgets must make provision for nursing service on that basis.

Educational Emphases:

To prepare nurses who are equipped to assume the many new responsibilities which public health nurses will assume in the future, to guide and supervise various types of auxiliary workers and to coordinate the public health nursing service with the nursing service rendered in hospitals and sanatoria will require careful planning and adequate financial support. To be specific:

1. We must develop basic nursing education programs which integrate the social and health aspect with the care of the sick. All nurses, not only public health nurses, must have an understanding and appreciation of disease prevention and health promotion. In order to give all nursing students this appreciation, schools of nursing recognize the value of a closer tie-up with community health agencies. The faculty in schools of nursing and the community public health nurses have much to give each other. As public health nurses we have a responsibility to assist in the preparation of our future nurses. We may assist by arranging visits in the community and by conducting discussion groups on health projects for the younger student nurses within schools of nursing. Actual field experience in public health for student nurses has in the past been a regular requirement of some schools of nursing but such experience must not take the place of a continuous emphasis on the social and health aspects of nursing which should begin when a student enters the school of nursing.

2. Universities and colleges which offer public health nursing programs of study must develop their programs on a level adapted to the needs of graduates from these modern schools of nursing. Nothing destroys the interest of a young nurse so much as to be required to take a postgraduate program of study in public health nursing which does little but rehash the same material she was given in her basic program. However, universities

must be flexible in arranging postgraduate programs for the large group of graduate nurses who did not graduate from modern schools of nursing. Prerequisite courses and special seminars must be arranged for that group if they are to be admitted to the programs designed for the graduates of modern schools.

3. We must develop programs in the clinical specialties such as tuberculosis, venereal disease, and cancer control; orthopedics; pediatrics and obstetrics. These programs should be designed primarily to meet the needs of public health nursing consultants in these special fields and for institutional supervisors and administrators of special services. There is a trend towards having one special nursing consultant serve both the health agency and the hospital or sanatorium. This sharing of consultant services may point the way to a better coordination of the nursing programs in hospitals and public health agencies.

4. Finally we must expand those programs designed to prepare supervisors of public health nursing. The use of more "nurse assistants" will require more and better supervisors. Every public health nurse to whom an assistant is assigned exercises certain supervisory functions. Therefore, field conferences, on a supervisory level, and didactic courses in supervision must go hand in hand if real leadership and supervision are to be available to the student nurses and to younger nurses in the field of public health.

Future Opportunities in Nursing

The nursing profession is passing through a critical period in its history. Professional nursing as it is known today is scarcely more than fifty years old. It has made remarkable progress in its educational and service developments particularly since 1900. It is expanding now at a tremendously rapid pace. The admissions to schools of nursing have increased

sixty-six per cent during the past nine years. Growing pains may be inevitable but we are assured that the expansion is not out of proportion to the real needs for nursing service. For the first time in the history of nursing, this need for nursing service has been publicized far and wide, by both federal and private enterprise. Generous federal appropriations have been made to promote the education of more nurses. Patterns of nursing education have been modified but not changed fundamentally. Some of the modifications may prove to be better than the original pattern and perhaps should be continued when the war is over. I believe we can rely upon our nursing education leaders to hold on to that which was sound in past practices, to visualize the changes through which our civilization is passing and to develop an educational program which will produce better nurses than we have ever had before.

As service agencies, we have a responsibility to lead the public to appreciate the need for more nursing service and to develop a plan for the utilization of the available nurse supply. Such a plan must take into consideration the ability of the public to buy such service and a salary scale which is commensurate with the responsibilities and professional preparation of a registered nurse. We can not continue to interest intelligent young women in the nursing profession unless tenure of office, adequate financial compensation and retirement benefits are assured. Such assurance can be given only when every state and every agency within the state operates under the principles of an efficient merit system.

The opportunities in the whole field of public health are truly unlimited. Nurses will share in those opportunities if they but have the vision to see and the courage to assume the responsibility which is always the twin of opportunity.



No one need die today with the disease. Tuberculosis is preventable and curable. Diagnosis and treatment are proved procedures.

Public Health Nursing Day

By

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FRIDAY, January 26, was the first National Public Health Nursing Day. The purpose of the day was to help the people to "Know Your Public Health Nurse—Who She Is, What She Does."

In the words of Dr. Thomas S. Parran, Surgeon General of the United States Public Health Service, I quote, "Public health nursing is very largely a 20th century development. During the past 30 years, the number of public health nurses has increased from 3,000 to more than 20,000 until today they outnumber any professional group in the health field. From the beginning, public health nurses have been concerned with the total health situation of the family, including sickness care and health promotion."

In our own State as early as 1904, Wilmington had a visiting nurse. Within the next few years similar services were added in Asheville, Charlotte, Durham, Greensboro and Winston-Salem. The first Red Cross town and country service to be established in the United States was in Old Fort, North Carolina in 1915. From May, 1915, to April, 1935, American Red Cross nurses were stationed in 52 North Carolina counties and played their part in helping to establish the Public Health Program. There were 6 nurses appointed by the State Board of Health in 1919 to carry out a program of periodic inspection of school children. These six and the two added later did much to stimulate the organization of full-time health units. The greatest expansion in public health nursing in North Carolina has occurred since 1932. In that year there were only 66 Public Health Nurses in the State serving on 43 local health department staffs. By December, 1944, we had 315 public health nurses serving in 91 counties and 6 cities which have full-time organized health departments with 34 vacancies. In addition to

this number there are 5 senior nurses and 7 consultants on the staff of the State Board of Health. Even with this growth we have not reached the minimum war-time standard of 1 nurse per 5,000 population recommended by the Committee on Administrative Practices of the American Public Health Association. Since this ratio is considered the minimum number needed as essential to protect the health of the people at home, qualified public health nurses in North Carolina have been given the classification 4B, essential for unlimited duration.

Public Health Nurses are serving in City and County Health Departments from the coast to the mountains. Their work takes them into schools, homes, clinics, classes and industries. These nurses in their blue uniforms are an everyday familiar sight as they travel about on foot, motorboat, rowboat, horseback, motor car and any other method possible to reach the patients needing their services. The duties of the public health nurse are to teach health to individuals, to families and to community groups and to provide or demonstrate nursing care for the sick in their homes.

A day with a public health nurse in Wake County on January 2 illustrates the variety of these services, for her day's work included visits to a new mother, to the home of a baby, a home where a midwife had delivered the mother, a sick school child, and another home with a baby. After lunch she spent a short time at a tuberculosis clinic; then visited a pre-school child, a crippled child, a venereal disease patient, and ended the day meeting with three midwives for supervision of their delivery equipment.

In carrying on the Maternal and Child Health program alone the public health nurse is much in demand. During the past two years public health nurses made nearly 257,000

nursing visits for maternity and infant care. On these visits to mothers and babies the public health nurse attempts to give the mother the help she needs so the baby will have a good chance to grow and develop normally. For instance, with a brand new baby it means weighing him, inspecting him carefully from head to toe, just in case there may be some condition such as a cleft palate, club foot, or other defect that could be corrected early and keep the child from being deformed. The nurse may teach the mother how to bathe the baby and assist her with the feeding schedule. Getting the baby under good medical care of either a private physician or the health department clinic is a very important part of health supervision, for each child needs to be watched carefully to see that he gets the proper food, sleep, play, and protection against disease.

In connection with communicable disease control the public health nurse visits homes to show mothers how to give sick children good nursing care, isolate them to protect the rest of the family, and quarantine contacts to prevent the spread of the disease. 67,000 visits were made for this purpose during the past two years.

However, this is only one part of the communicable disease control program. We are primarily interested in preventing disease. We encourage everyone to take advantage of the protection available against diphtheria, small pox, typhoid fever and whooping cough. Many people have responded for nearly 200,000 smallpox vaccinations and 148,000 immunizations for diphtheria were reported during the last two-year period. With the population shifting about as it has during this emergency, it is more important than ever to make certain that these preventable diseases do not sabotage our war effort.

The war has certainly stimulated the maternity program for the birth rate has increased, which, of course, means more mothers and babies to care for. Congress appropriated funds for the Emergency Maternity and Infant Care program for soldiers' wives, and Dr. Martha Elliott, Medical Director of the Chil-

dren's Bureau in Washington, reported recently that about 1 of every 6 babies born in the United States last year came under this program. Since April 8, 1943, the infant and maternity benefits have been provided in North Carolina to 1,500 sick babies and to nearly 22,000 mothers. We are averaging about 900 completed cases a month. Approximately 95% of the soldiers' wives in North Carolina are participating in this program. Think what this means to our men overseas to know that their wives and babies are getting good care while they are away. They are fighting for us, and we can't let them down for we must keep America a safe place for their families and for them to come back to. That means we have a big job ahead in public health in North Carolina.

Tuberculosis is another of our outstanding health problems for this disease ranked first among the 18 selected reportable diseases in 1943. Considerable tuberculosis control work is being carried on, and the recent appropriation made by congress for grants in aid to states will certainly add great emphasis to the all-out offensive against the Great White Plague. During the past two years public health nurses have made nearly 77,000 visits for tuberculosis control in North Carolina. They visit the new cases reported by the physicians and help the family to understand and carry out the necessary precautions that must be taken to prevent others from contacting the disease. They help plan for sanatorium care, follow up family contacts and suspected cases to get them examined, and continue to give health supervision to both patients and contacts. Tuberculosis is much easier to cure in the early stages, therefore, it is very important to keep careful check on all persons who have been exposed in order that they may be examined, and if found to have the disease, may be sent to the sanatorium while they still have a good chance to get well.

Another part of the Public Health program in which the public health nurse participates is the School Health Program. Since 1939 we have had the School Health Coordinating Unit

which is a joint activity of the State Department of Public Instruction and of the State Board of Health. The program endorsed by this service provides for initial screening of the children by the teacher, who refers those children believed to be in need of further attention to public health nurses and then to health officers for more complete examinations. This screening includes the physical inspection of the child together with weighing, measuring and vision and hearing tests. The children selected by this process are examined by the Health Officer and those needing medical and dental care are referred to their family physicians and dentists or to school dentists. The most common defects found are bad teeth, infected tonsils, eye defects, and very often poor nutrition goes right along with these. If the parents are not present at the time of the examination they are notified of the defects found. Both the teacher and nurse usually cooperate in the follow-up work. During the past two years there were approximately 70,000 children who had dental defects corrected, about 12,000 who had tonsils removed, and almost 9,000 who had corrections for eye defects. However, there are other children who need to have defects corrected. For this same period there were more than 145,000 children referred for medical care.

Public health nurses are concerned with other phases of the school health problems as well. They are interested in health service, health instruction, healthful school living, nutrition, and all other phases of a school health program concerned in building a well balanced school program in order that children may have good health.

Public health nurses also participate in venereal disease prevention and control, mor-

bidity and crippled children's service. The polio outbreak last summer added a lot of new cases to the crippled children's service. Most of the polio victims were taken to hospitals for attention. The public health nurses did, however, visit the homes during the acute stages of the disease, and now they are continuing to make regular follow-up visits to make certain that children are being taken back for proper medical supervision.

The splendid kind of public service which the public health nurse renders in this specialized field of nursing requires special preparation. The eligibility requirements include in general: graduation from high school, registration with State Board of Examiners following three years of training in an accredited school of nursing. Since the public health nursing courses are college work, nurses selected must be able to meet college entrance requirements. We also specify thirty-five years as the age limit upon first entering public health.

If young women have successfully completed their basic nursing training and meet the other general requirements, there are scholarships available to those who are interested in preparing themselves for public health nursing positions.

At the present time, we are making every endeavor to render as adequate public health nursing service as possible to the home front. Until the needs of the Army and Navy have been met we cannot hope to secure all of the public nurses we need. In the post-war period we are looking toward the expansion of public health nursing in order that we may contribute to the kind of public health service which will insure every citizen his birthright—the right to good health.



Tuberculosis not only exacts its heavy toll in American health and life, but presents a staggering bill to American taxpayers. While the disease recognizes no age barrier, no color line, no bank account, no I. Q., it does strike harder the lower income.

"Know Your Public Health Nurse Who She Is - What She Does"

By

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1945—The first year in which the U. S. Public Health Service and the National Organization of Public Health Nursing have requested that we dedicate Public Health Nursing Day in each community.

Would you be interested in the following pageant for doing the same? If you are interested, using certain mechanics will make your pageant more effective.

A stage with a raised section in the center shows to advantage the spectacular characters. Steps at each side of the stage provide the best approach. The figures all enter from the rear of the room and are picked up with the spot light when they are about half way down the aisle to the stage. Here the figure stands while the narrator reads the script for that character. A good narrator is needed and is more effective if unseen by the audience. The record "The Swan of Tuonela," No. 3 of Lemminkainen Legend, Sibelius, opus 22, The Philadelphia Orchestra, makes excellent background music or any other soft music may be used during the whole pageant. When "Night-ingle" enters no spot light is used—the light of her candle is the only light in the room. The Nursing Division of the State Board of Health is able to lend most of the costumes, the making of which requires considerable work.

For local interest, the supervisor of your particular county should take the supervisor's part and the local staff nurses represent their own group. The local 1944 report of nursing activities should be most informative.

Only one dress rehearsal is required and program time allowed should be forty-five to sixty minutes.

OUR NURSING HERITAGE

No occupation can be understood unless illustrated by history. The origin of nursing activities, the spirit animating the founders of the nursing profession, and the picture of the long struggle toward attainment of ideals inspire workers with a consciousness of being part of a great plan. As far back as we have history, there is a record of some kind of nursing. So we liken our nursing heritage to the following Danish folk song:

"That cause can neither be lost or stayed,
that follows the path that God has made,
And is not trusting in walls and towers, but
sweetly growing from seeds to flowers.

Each noble deed that man has wrought, was
first conceived as a fruitful thought;
And each holy cause with a future glorious,
by quiet growing became victorious.

"Thereby, itself, like a tree it shows, that
high it reaches as deep it grows;
And, when the storms are its branches shaking,
it deeper root in the soil is taking.

"Be then, no more, by a storm dismayed,
for it the well formed seeds are laid;

And if, by the storm, the tree is shattered,
what then — if thousands of seeds are
scattered?"

To illustrate our nursing history we show:

1. (Fabiola)

Fabiola, a wealthy Roman Matron, founded in her home about 300 A.D. the first free hospital care under Christian auspices.

Description of Costume: White skirt, blue gown. Tall white cornucopia hat with long red veil from opening in top.

2. (Hospitalier)

During the crusades the ministrations of the hospitaliers aroused special interest. They

built hospitals and devoted themselves to the thousands who pleaded their way to Jerusalem. The military discipline of those hospitals has survived to some extent to this day.

Description of Costume: Suit of silver armor (radiator paint on oil cloth). Silver helmet with white feathers (white tissue paper cut like cogue feathers or plumes).

3. (St. Vincent de Paul)

St. Vincent de Paul was a parish priest whose social vision was so far ahead of his time that the majority of his followers have not yet caught up with him. The up-building of modern nursing really began with St. Vincent de Paul.

Description of Costume: Rope belt, brown habit, black skull cap, sandals (brown lining hangs from shoulders—no sleeves—cape same material to hands. Black or brown stockings rolled for cap. Wooden scuffies for sandals).

4. (Sisters of Charity)

St. Vincent brought young country girls to a small house in Paris, and there developed the organization of the "Sisters of Charity." These sisters brought youth, enthusiasm, and fresh zeal into nursing. They worked in homes, hospitals, orphanages, mental hospitals, and gave service in the Napoleonic Wars. "Nuns," said St. Vincent de Paul, "must have a cloister, but the Sisters of Charity must go everywhere—no other monastery than the house of the sick, no other chapel than the Parish Church."

Description of Costume: Black habit (choir gowns)—white coif—rope belts. White crinoline for coif—high pointed sides and white shoulder wide collars with stiff neck.)

5. (Sairy Gamp)

Like all activities, the quality and quantity of nursing service has waxed and waned. From the sixteenth to the middle of the nineteenth century very little is known of nursing programs. Dickens portrays by Sairy Gamp what we do know—that nurses were so over-worked, ill-treated and ill-fed that no one would undertake the work who could avoid it. Only hardened characters seemed

available. But hardened as Sairy is portrayed, she never refused to do what she could for the sick.

Description of Costume: Dirty brown dress and ugly shawl. (Shirred brown cloth hat. Whiskey bottle.)

6. (Florence Nightingale)

Florence Nightingale, a cultured English woman, in 1851 entered Kaiserwert Hospital, in Germany, for training with Pastor Fleidner and his wife Fredrica. In 1854, Nightingale sailed for the Dardenelles for nursing service in the Crimean War. Her character, her work and courage gave to the nursing profession an ideal that has always been an inspiration to those who do this work. In a letter home, one officer drew this unforgettable picture of her.—"She is a ministering angel; wherever there is disease or the hand of death is laid on our men—there this incomparable woman is sure to be seen. When the silence and darkness of night have settled upon the miles of sick, she may be observed—alone, a little lamp in her hand—stopping beside each cot, listening to the breathing, or whispering a word of cheer to those who suffer too much to sleep."

Tennyson wrote:

"A lady with a lamp shall stand,
In the great history of the land,
A noble type of womanhood."

Description of Costume: A long plain gray dress, white collar, black apron, dark short shawl, candle in paste board cut-out lamp. Well groomed and pretty. White nurse's cap.

7. (Ladies in Gray)

By 1860, Charleston, South Carolina, had a Visiting Nursing Order known as the "Ladies in Gray." It was the forerunner of the present day nursing association and was most active during the War Between the States.

Description of Costume: Long gray capes (lining) with very full shoulder cape on top of long one. Black bonnets with ties under chin.

8. (First Visiting Nurses)

The first American organization to send visiting nurses into homes was the Woman's Branch of the New York City Mission, which

began its activities in 1877. Buffalo followed in 1885—Boston in 1886—Henry St. Settlement in 1893.

Description of Costume: Black checked uniform with bishop collar. Gathered apron—elbow length soft cuff. Gathered stand-up cap. Bib crossed front and back.

9. (First Official District Nurse)

1885 saw the first district nurse, Mary Brewster of Buffalo, who decided to move into the neighborhood of what seemed an alien group in a "so-called democratic country."

Description of Costume: Very long striped blue uniform. High rolled hat. Gloves, bag, high stiff collar on blouse.

10. (Holman)

Lydia Holman, a Philadelphia General Hospital Nurse, was sent to Ledger, Mitchell County, North Carolina, in 1900 to care for a typhoid fever case. Later, because of requests, she felt her service was needed among the mountain people; so she returned and has remained ever since. Her chosen path has been attended by danger and discomfort, most of these patients having been reached by horseback or afoot through a wild mountainous country. But Miss Holman has had the satisfaction of giving nursing care to countless isolated mountain women. In 1936 she was elected an honorary member of the Mitchell County Board of Health.

Description of Costume: Riding breeches, blouse, hat, saddle bags.

11. (Lillian Wald of Henry St. Settlement)

During 1902, the nurses of Henry St. Settlement under Lillian Wald's direction, discovered a 12 year old boy who had never attended school because of a lesion on his head. Miss Wald offered Miss Lena Rogers to the schools for a demonstration to prove that nurses could interest or assist families in receiving medical care for sick school children and thereby reduce the absenteeism of school children. The demonstration was started on November 7, 1902, and continued for one month. On December 12, one month later, twenty-five nurses were appointed for special school service. On September of 1902, 10,000

pupils had been excluded during the year for communicable diseases. By September of 1903, due to the nursing activities, only 1,000 pupils had been excluded during the year.

Description of Costume: Large person in long white uniform.

12. (Wilmington) (Columbia Munds)

Amelia Lawrison was employed in Wilmington in 1904 as a visiting nurse. In 1907 the Ministering Circle assumed responsibility for this visiting nurse and in 1917 employed the second nurse, Columbia Munds. Miss Munds of Wilmington graduated from the Margaret Farmstock School for Nurses, a post-graduate school of the New York Post Graduate Hospital. Her most outstanding service has been supervision of the Wilmington Public Health Nursing Association which was organized in 1918 and recently was reorganized as part of the New Hanover and Wilmington Consolidated Board of Health.

13. (Ruth Hay)

As the complexities of public health nursing grew, the fact was recognized that hospital preparation alone was not sufficient for this new type of community worker. So in 1906 the Instructive District Nursing Association of Boston offered the first post-graduate course in district nursing. Columbia University was the first institution to appoint a nurse, Miss Adelaide Nutting, to a professorship. Since then, public health nursing courses have been established in the colleges and universities of Michigan, Chicago, Pennsylvania, St. Louis, Denver, Washington, Leland Stanford, Minnesota, Vanderbilt, William and Mary, Peabody, Simmons, Northwestern, and Fisk. At present there are 32 university programs of study. In 1941, the University of North Carolina established a chair in public health nursing with Miss Ruth Hay as professor.

Description of Costume: Black academic cap and gown.

14. (Jane Brown)

In 1912, when all over the country public health nurses were rapidly growing in number, Asheville Associated Charities placed Miss Jane Brown of Watts Hospital on duty under the direction of Miss Mary Rogers of Welles-

ley. This service continued until 1919 when the City Health Department assumed the responsibility of nursing care for its underprivileged sick.

Description of Costume: Long navy uniform, high top shoes, wide beaver hat, bag.

15. (Red Cross Nurse)

The first Red Cross Town and Country Nursing Service to be established in the United States was at Old Fort, North Carolina in 1915. From May, 1915 to April 1935 American Red Cross Nurses were stationed in fifty-two North Carolina counties and played their part in helping to establish the public health program.

16. (Pearl Weaver)

School nursing was begun in 1916 in Asheville by Miss Pearl Weaver, under the auspices of the local Parent-Teacher's Association and financially sponsored for the first year by Mr. Fred Seely. This service continued until the city health department assumed responsibility for the school program. Miss Weaver's services have continued with the State Board of Health.

17. (The State Board of Health School Nurses)

Dr. Cooper wrote the law in 1919, revised from one written in 1917 by Dr. W. S. Rankin, that provided for periodic examination of school children. The term "agent" inserted in the law applied to physicians, dentists, teachers and nurses. It was Dr. Cooper's idea that nurses could reach mothers and would co-operate with private physicians. The first nurses to carry out this program of school work were Cleone Hobbs of Clinton, Nora and Nancy Pratt of Raleigh, Raime Williams of Chatham County, Birdie Dunn of Raleigh, and later Cora Beam of Fallstone, Kate Livingston of Wagram, Flora Ray of Sanford and Mrs. H. P. Guffy of Statesville. "These nurses travelled on foot, horseback, on rafts, by boat, tram-cars, ox carts—any way to reach the 'forgotten' child." Tonight we have with us Miss Birdie Dunn to represent this pioneer group.

18. (The State Board of Health Nursing Consultants)

During 1919 the Division of Public Health Nursing and Infant Hygiene, jointly sponsored by the State Board of Health and the American Red Cross, was established with Miss Rose M. Ehrenfeld as Nursing Director. This division was reorganized in 1922 as the Bureau of Maternity and Infancy, receiving Sheppard-Towner Act support and functioning under Dr. Bonner's direction, still retaining Miss Ehrenfeld as nursing supervisor.

Assisting the present Medical Directors with the public health nursing activities in the City and County Health Departments are seven consultant nurses: Miss Fisher and Miss Lamb in the central district; Miss Bayley and Miss Hewitt in the eastern district; Miss Patton and Mrs. East in the western district; and Miss Ruth Council with Dr. Cooper. Excepting Miss Council, who gives consultant service for orthopedics alone, each consultant renders a general service. In addition to her general activities, Miss Patton is responsible for a special maternity service, Miss Bayley for venereal disease nursing, Miss Lamb for planned parenthood service, and Mrs. East for industrial nursing. Their post-graduate public health courses were received at Columbia, Simmons, St. Louis, William and Mary, and Pennsylvania.

19. (Supervisors)

Sixteen public health nursing supervisors are now employed by various districts and counties. Their responsibility is direct supervision over all public health nursing activities in their territory. They received their public health education at Columbia, Minnesota, Pennsylvania, William and Mary, Peabody, and North Carolina. Mrs. Emily Pickard of the Durham Health Department represents this group.

20. (Educational Director and Assistant Supervisor)

Mrs. Lucy Royster Brenner is Educational Director and Assistant Supervisor for the Nursing Division of the Durham Health Department. Miss Eloise Bennett is Assistant Nursing Supervisor for Venereal Disease activities. With them are four students in public health nursing from the University of North

Carolina, who, during three months of field experience, learn to apply under supervision the theory taught at the University.

21. (Staff Nurses)

Today's public health staff nurses are the "firing line" for the whole public health nursing program. They are found in cities and county health departments, in schools, homes, clinics, classes, and industries. Their duties are to teach health to community groups, in homes and to individuals—to aid in promoting health education, to provide or supervise nursing care for the sick in homes. Their blue or gray uniforms are an everyday familiar sight. There are about 325 public health nurses in North Carolina and during 1942 they made 336,571 instructive home and office visits in addition to setting up and assisting in all clinic school services. These figures do not include the venereal disease nursing visits made. The educational preparation of these nurses consists of three years basic hospital training, including at least 50 acceptable University credits and from one-half to one year's post-graduate work in public health nursing in a recognized university which generally amounts to another 50 credits. This preparation is equivalent to two years of college work. As an educated group, nurses rank second to teachers. About 25% of public health nurses have had college preparation before entering hospital training.

22. (Flora Wakefield)

Miss Flora Wakefield, a public health nurse, Supervising Nurse in the Wake County Health Department, is president of the North Carolina State Nurses' Association. It is an interesting fact that the public health nursing section is one of the largest sections in the State Nurses' Association.

23. (Preliminary)

The student nurse of today begins her work with the same heritage that has endowed

nurses from the beginning. She will learn, too, that nurses have built on this foundation a profession which demands intelligence, self-forgetfulness, and the finest type of womanhood.

24. (Ending—Fabiola and Preliminary)

The nurse of tomorrow will be just as loyal, as efficient as the nurses reared in the past and those we will admire in the future, but they will be under a new freedom based on sound education that will give them skill and courage in a changing world.

As an appreciation of public health nursing service, a patient wrote the following tribute:

TO THE NURSE

"Tall daughter of an ancient race, she stands
Benign and beautiful and strong and wise.
The world, like a tired child beneath her
hands

Sleeps and is healed.

"So often her grave eyes have looked on
pain and death

That by her will the terrors of the night are
held at bay—

Under her touch our quivering nerves are
still

And all the thirsty torment of the day
Is bearable because our strength is new.

"Her heart with service as its chosen star
Helps us to overcome our sickly fear
And where she is, hope and compassion are;
Thus excellently power and plenty blend
In Healer, Mother, Comforter and Friend."

—Anonymous.

References:

- Mary Gardner "Public Health Nursing"
- Mary Wyche "Nursing in North Carolina"
- North Carolina State Board of Health 40-42
Report
- Simmons Nursing History Notes
- Nutting and Dock "History of Nursing"
- N.O.P.H.N. "Historical Notes".



Approximately 350 million tax dollars are invested in hospital facilities for the tuberculosis. More than 70 million tax dollars go annually for the maintenance of these facilities.

Nursing Activities In Sampson County Health Department School Program

By

MRS. IRENE E. HUFHAM, R.N.

Clinton, North Carolina

I. Physical Inspection by Teacher.

Although teachers in the Sampson County schools had been teaching health and had previous training in health teaching, the first step in the new school program was for the teacher to be informed of the procedure in the new teachers inspection program.

Since the physical inspection of children is a good beginning for any school health program the teachers took this activity as their starting point. Miss Mac Veigh Hutchinson of the School-Health Coordinating Service and the county nurses met with a group of teachers from grades two through seven. Five children from each grade were selected by the teachers to be inspected by these nurses. This was the first demonstration to the teachers of the screening procedure.

Posture was the first point considered. Each individual child was examined in walking, sitting and standing positions. This was done to determine nutrition and orthopedic conditions. Next, the child's color was studied. This determined whether he had rich red blood or pale blood. Pale blood was indicative of hook worm or some other defect. The gums were examined carefully to see if the child had spongy gums or healthy gums. If the gums were found to be spongy a change in diet was recommended. The child was asked to eat raw vegetables. These foods included cabbage, carrots and others which can be raised in the home garden. The teeth were examined next. Special attention was given to the six year molars. The importance of keeping these teeth was stressed to the child. It was urged that regular visits be made to the family dentist. The necessity of proper diet for sound teeth was emphasized at all times. Tonsils were considered next. If the tonsils were red and had yellowish spots they

were considered probably diseased. The eyes of the child were then considered. The Snellen chart was used for the test. Hearing was checked by the Whispered voice. The child stood at a distance of twenty feet from the nurse and faced the other way. The pupil placed the palm of the hand over the ear not being examined and repeated numbers or words which the nurse spoke in an ordinary tone of voice. A record of the results was recorded.

To see if the child had fallen arches or any other foot defect the print of the foot was made on paper. The nurse stressed the importance of wearing properly fitted shoes.

Weight and height were taken so that a record could be kept to see if the child made regular gain in weight and height.

Following the screening demonstration the nurse had a follow-up conference with the group of teachers. Many questions of the teachers were discussed at this time. Each teacher was asked to screen her entire room. As a result of this screening the teacher was to select five children who needed physical examinations. At this conference, special attention was given to filling the required record forms. A duplicate of this record is kept on each child's cumulative school record.

The school records of physical examinations for the selected pupils are kept in the Health Department.

II. Medical Examination by County Health Officer.

On the day of the physical examinations at the school the nurse arranged for three rooms to be used. One was used as a waiting room for the parents, one for a dressing room and one for the physical examination by the County Health Officer.

Chairs were arranged in the room where the parents waited. The teachers took this opportunity to create a feeling of friendliness and informality. In several schools the bulletin boards in the halls featured some phase of the health program; posters of the seven basic foods, murals showing the child's day if he observed the rules of health, etc., were displayed.

The dressing room was a comfortable room sufficiently heated. An older pupil acted as the nurse's helper. For the examination each child wore a nightingale. This made it possible for the doctor to examine the child thoroughly.

The examining room led directly from the dressing room. There was good light and sufficient heat. There was a large table and three chairs. The table was placed at the doctor's right as he sat in front of a window. On the table was a pan of water placed on a towel. There was liquid soap and paper towels. Next to the window were placed the tongue blades, applicators, alcohol, cotton, stethoscope, flashlight, aural speculum, laboratory specimen containers and various types of health literature. A paper bag hung on one end of the table for waste.

Both the parent and teacher came into the room for the child's examination. As the doctor made the examination he discussed the findings and made recommendations in accordance with these findings.

As a result of the examinations, the following figures, showing the defects found and the corrections made were submitted with the consent of the Health Officer. An average of ten parents visit the office of the County Health Department each month to report corrections made.

625 physical examinations made by Health Officer. 70 with no defects. 232 parents present. 425 home visits made. Tonsils: 289 referred to family physician; 17 removed. Teeth: 136 referred to dentist; 34 corrected. Eyes: 218 referred to eye specialist; 61 corrected. Nutrition: 32 unsatisfactory; 13 corrected.

Hearing: 6 defective. Hookworm: 63 hookworm specimens sent to laboratory; 36 found to have intestinal parasites; 22 had treatment; 19 containers given not mailed; 7 containers given second time; 5 pupils visited doctor's office and failed to see him; 32 not-at-home visits made. Sinus: 3 referred to family doctor; 3 not corrected. Poliomyelitis this summer checked the tonsil corrections.

III. Nutrition.

Mrs. Thrasher of the Nutrition Division of State Board of Health held a conference in each school and discussed nutrition with the teachers. She made available to the teachers much material which they could use in their classrooms. Special emphasis was given to the basic seven foods. The teachers made this a special part of their health program. Many units of work were based on this phase of health.

As a result of this special emphasis on nutrition there was a marked increase in the number of hot lunches and bottles of milk served during the year. Hot lunches and milk were given to children as recommended by the teachers. This helped with the school attendance.

IV. Healthful School Living.

An attempt was made to have a school environment which provided for healthful school living through clean, attractive school rooms.

Hand washing before eating became an important part of the supervised lunch period. Rest periods which follow the lunch periods also became a part of the school day. Older girls and boys were given special instruction on the care of the skin and fingernails.

Clubs which emphasized wholesome recreation for the school child were organized. At these meetings games were played and simple refreshments were served. These school parties ended early enough in the evening so that school boys and girls got their proper amount of sleep.

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No. 4



JOHN E. FLOYD

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The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils
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 Diphtheria
 Don't Spit Placards
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 Flies
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 Infantile Paralysis
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 Malaria
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SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.
 Prenatal Letters (series of nine monthly letters.)
 The Expectant Mother.
 Breast Feeding.
 Infant Care. The Prevention of Infantile Diarrhea.
 Table of Heights and Weights.

Baby's Daily Time Cards: Under 5 months; 5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
 Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
 Instruction for North Carolina Midwives.

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THE Health Bulletin

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Vol. 60 APRIL, 1945 No. 4

CARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

MEMOIR OF JOHN E. FLOYD

JOHN E. Floyd, Supervising Sanitary Inspector of the State Board of Health, was born in Robeson County on May 8, 1897, and died on March 2, 1945. He served in the U. S. Navy during World War I and was discharged with a rating of First Class Petty Officer at the close of hostilities. He began his career as a health worker with the County Health Department at Lumberton, North Carolina, in 1921. In 1922, he was employed by the Division of Sanitary Engineering of the State Board of Health and remained in that position until the time of his death.

Mr. Floyd had a wide acquaintanceship throughout the State and numbered among his friends many who were prominent in engineering, public health, business, and municipal government. From his intimate associates, he enjoyed the highest respect. Although his position with the State, as a public health law enforcement officer, was a difficult one, he so conducted himself at all times as to merit the respect and admiration of many citizens of the State with whom he came in contact. This was evidenced by the many expressions of regard received following his untimely death. Having started his career in public health sanitation work at the time North Carolina sanitation programs were being developed, he had a great part in their expansion and no one was more devoted to the cause of public health than was John Floyd. He was possessed of great patience and understanding and an abiding faith in God and his fellowman. He was quiet mannered, deliberate in thought and action, and responsive to requests for help from anyone. It can truthfully be said that his life for the past twenty-four years revolved around his home and his work and he died as he lived—on the job. He was proud of his profession and labored unceasingly for the promotion of better health and welfare for the people in North Carolina.

An unknown person speaking in defense of Mr. Floyd several years ago when certain North Carolina public health laws were being severely criticized by some individuals in the State said, "A monument should be erected somewhere in western North Carolina in his honor, after his death, on account of the great work he did in the field of sanitation."

The above expresses the feelings of all of us interested in improving the health and living conditions of our fellowman. His untimely passing was a great loss to the State and to his many associates. He will be greatly missed but our memory of him will be an incentive and an inspiration for younger health workers to follow in working diligently for those things which add to human happiness and health.

Nutrition Versus Pellagra

BY CARL V. REYNOLDS, M.D.

North Carolina State Health Officer

BETWEEN January 1, 1917, and December 31, 1944, there were 11,456 pellagra deaths reported to the State Board of Health. The total number of North Carolinians killed in action and dying from wounds during the first World War was 2,375, a fraction over one-fifth as many as have died in this State of pellagra since our entrance into that conflict. During that war, there were only 629 North Carolinians actually killed in action. Compare this with the 11,456 pellagra deaths reported above and you have a striking contrast.

Fewer persons died of pellagra in North Carolina in 1944 than during any year for which the records are available. For the entire year only 64 such deaths were reported to the State Board of Health and an all-time low rate of 1.7 was recorded. During the previous year there were 110 deaths from this malnutrition disease, and the rate was 3.0.

The above figures are in sharp contrast with those of former years. In 1918, the peak year of United States participation in World War No. 1, the pellagra death rate in North Carolina was 25.7, and in 1929 and 1930, which were depression years, the rates rose to 32.0 for each year, after a recession that followed the war and coincided with "prosperity."

With the easing of the depression, the pellagra death rate again began to decline, but not to any marked degree until following 1937. The rate that year was 13.0, but in 1938 it dropped to 7.3 and the down-trend has been sustained since that time, reflected as follows: 1939, 5.9; 1940, 4.7; 1941, 3.8; 1942 and 1943, 3.0; 1944, 1.7, the lowest ever recorded.

From the above figures we can readily conclude that pellagra is influenced by economic conditions; and we know, too, that better economic conditions are conducive to the consumption of more and better food.

However, adverse economic conditions need

no longer seriously affect the nutritional status of the people as they have done in the past. They might even prove a blessing in disguise by bringing out the necessity for eating not expensive food but the right kind of food—namely, enough of the "Basic Seven" to furnish the body with all the elements necessary to its growth and development.

A housewife with \$5.00 to spend might conceivably provide more of the right kind of food for her family than one with \$20.00. It is not a question of how much we eat, but how well we eat.

For many years the State Board of Health has realized the relation between good nutrition and good health. Deficiency diseases, such as pellagra, also scurvy and rickets, have occurred all too frequently. However, the really serious aspect of the problem is not these relatively few well-defined deficiency diseases, but, rather, it is the widespread existence of early and less well-defined nutritional deficiencies in so many of our people.

We are all familiar, more or less, with the importance of adequate food of the right kind in the treatment of wasting diseases, such as tuberculosis, but few realize the importance of the right foods for the prevention of disease.

The decline of pellagra deaths in the past few years is no mere accident. Every effect must have its cause. Although foundations for a nutrition program were being built up prior to that time, statewide and nationwide activities on a more intensive basis began in 1941, following the National Nutrition Conference called at Washington by President Roosevelt in May of that year.

Already, we have accomplished much in North Carolina, with such funds as have been available, all, so far, from private or philanthropic sources, and no State aid. But, sooner or later, nutrition's part in any over-all public health program must be recognized. Until such a time, the State Board of Health and

agencies that are cooperating in making the State Nutrition Committee an effective force for improving the nutritional status of our people, will continue to carry on, with such material as may be available.

It would be a fair deduction to assume that much of the reduction of pellagra that has occurred in North Carolina has been the result of nutrition education which, among

other things, has led to the enrichment of certain foods—especially bread and flour—from which nutrients formerly were taken through processes of refinement. Enrichment plays an important part in any nutrition program, but we also must keep before us the importance of eating some of all of the “Basic Seven” foods not simply at intervals, but every day.

North Carolina's Smallpox Law

BY C. P. STEVICK, M.D.

Director Division of Epidemiology
State Board of Health, Raleigh, N. C.

IT has been stated repeatedly by leaders in the field of public health that compulsory vaccination is the only present means of eliminating smallpox. In spite of wide concurrence in this opinion throughout the nation several states have neglected to adopt more adequate laws that would permit the eradication of smallpox on a nation-wide basis to proceed without further delay.

The smallpox situation in the United States at present is far from ideal. As a matter of fact, there seems to have been a tendency of late to neglect smallpox control. This has probably been due largely to two facts. First, the great epidemics of the past with their destruction of as much as 10 per cent of the population in certain areas are unknown to the present generation. Secondly, most of the cases that have appeared in this country in about the last fifty years have been of the mild form of the disease, with a case fatality rate usually of considerably less than 1 per cent compared with the rate of approximately 25 per cent for the severe form.

While it is certain that large epidemics of smallpox are a thing of the past small outbreaks still occur. It is very uncertain, also, that we will continue to have a preponderance of the mild form of the disease in this country. As a matter of fact, the possibility of importation of more of the severe strains of the virus

from the Far East and other areas where smallpox is still widely prevalent will probably be much greater in the post war years.

Smallpox was widely prevalent in North Carolina up to 1929 at which time a sharp decrease occurred. The progress made since that date, however, has not been as rapid as that of several other states.

The reported cases for this state for the period 1920 to 1944 are shown in Table I:

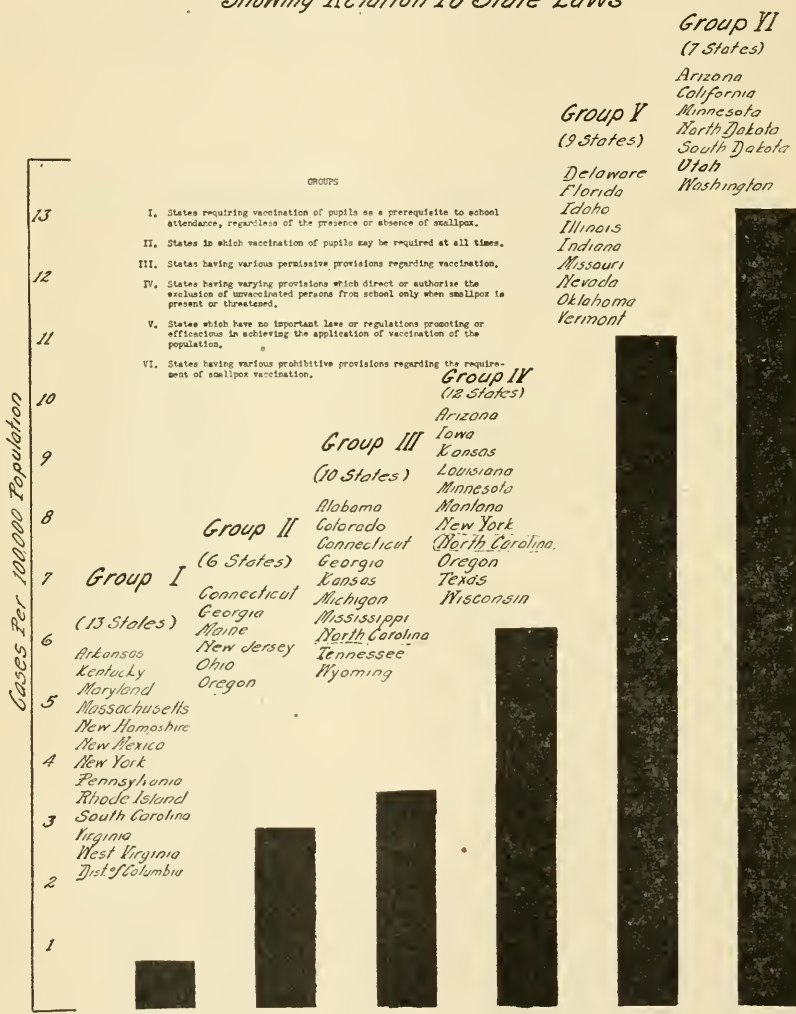
TABLE I
SMALLPOX CASE REPORTS FOR
NORTH CAROLINA
1920-1943

Year	Total Cases Reported	Year	Total Cases Reported
1920	2,961	1932	72
1921	2,513	1933	35
1922	1,409	1934	18
1923	3,352	1935	24
1924	3,845	1936	19
1925	1,920	1937	11
1926	1,594	1938	35
1927	1,702	1939	15
1928	2,419	1940	6
1929	589	1941	4
1930	556	1942	7
1931	63	1943	21

The increase in case reports in 1943 was due to an outbreak of the disease in a group of unvaccinated persons in Clay County. Even

SMALLPOX INCIDENCE IN THE UNITED STATES

Showing Relation To State Laws



excluding that group, however, the total for 1942 and 1943 combined would still have been 14 cases, or four above that for the previous two-year period.

The sharp decline in the disease that occur-

red in 1929 was apparently due to the cumulative effect of the immunization of steadily increasing numbers of the population for a period of years previous to that date. The production of smallpox vaccine by the State

Laboratory of Hygiene was begun in 1920 and contributed materially to the supply available to the general public.

The rate of production of the vaccine by the State Laboratory of Hygiene as compared to the reported cases for the period 1920 to 1937 is shown in Figure I. Since the quantity of vaccine produced by the Laboratory is dependent on the requests received, the graph of vaccine production probably reflects quite closely the increasing number of persons vaccinated up to 1929, at which time it would appear that the number of immune persons in the population of the state finally became sufficiently great to bring about a prompt reduction in the incidence of the disease. Since that time, the demand for vaccine has dropped to a point that remains fairly constant from year to year and that is sufficient to maintain the population at about the same level of immunity.

The motivating factors behind the mass immunization of the population of North Carolina prior to 1929 are probably rather numerous. The benefits of vaccination became known to more people, physicians recommended its use more widely, and with an expansion in the public health program in the state more facilities for providing the vaccination became available. Additional factors could be listed, but one of the most important of all of the developments was the passage of a law pertaining to smallpox immunization by the General Assembly of 1911, and its amendment in 1913. The passage of this law provided a stimulus that was essential in the initiation of the subsequent developments listed.

The combined effect of these events led to a marked reduction in smallpox in the state but unfortunately the task was never quite completed. Many counties became comparatively free of the disease shortly after 1929, but certain other counties have continued to have small numbers of cases intermittently up to the present. In the past ten years 30 of the

state's 100 counties have reported smallpox in each of two or more years.

The lack of uniformity in the eradication of smallpox in the various states of the nation can be attributed directly to the effectiveness of their existing vaccination laws, and a corresponding situation among the counties of this state constitutes the most logical explanation of the relative slowness with which the final phase of the eradication of the disease is being completed in North Carolina.

A recent study by Brock C. Hampton of the Division of Sanitary Reports and Statistics of the U. S. Public Health Service illustrates very clearly the relation between the adequacy of state laws and the incidence of smallpox. This study was published in the issue of **Public Health Reports** for December 3, 1943. The 48 states and the District of Columbia were divided into groups according to the adequacy of their smallpox vaccination requirements. The morbidity rate was calculated for each of these groups on the basis of the total number of cases for each group as a whole for the years 1938-1941 and the total population for the particular group for those years.

The classification used in grouping the states was as follows:

Group I: "States in which vaccination is a prerequisite to school attendance, regardless of the presence or absence of smallpox."

Group II: "States in which vaccination of pupils may be required at all times."

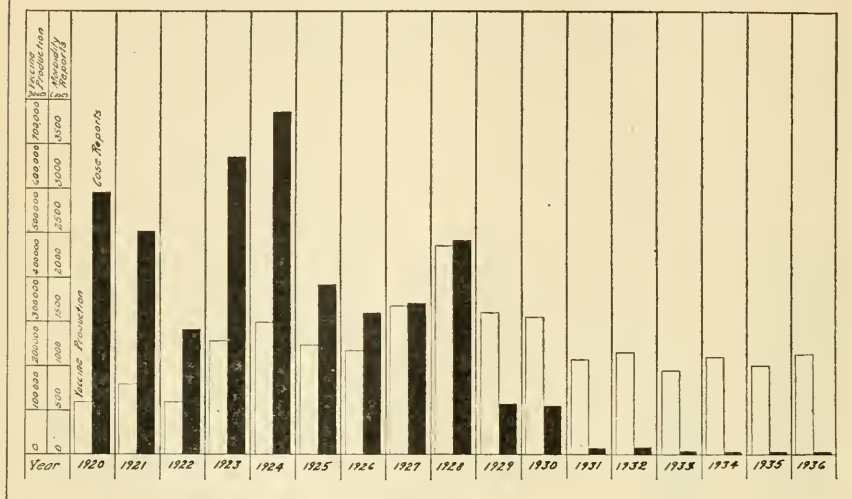
Group III: "States having various permissive provisions regarding smallpox vaccination."

Group IV: "States having varying provisions which direct or authorize the exclusion of unvaccinated persons from school only when smallpox is present or threatened."

Group V: "States for which no important provisions of law or regulations were found regarding vaccination."

Group VI: "States having various prohibitive provisions."

N.C. State Board of Health
SMALLPOX VACCINE PRODUCTION & CASE REPORTS
 1920-1936



The states in each group are shown in Figure II. It will be noted that several states are included in more than one group. This was necessary because of overlapping provisions in the laws of those particular states. North Carolina appears in Groups III and IV. These two groups have morbidity rates of 3.6 and 6.3 cases per 100,000 population, respectively, as compared with the rate of 0.8 for Group I.

Since the rate for each group was calculated for the group as a whole, the individual rates of each of the states vary above and below the rate for the group. For instance, in Group I several of the states listed have had no smallpox cases reported for one or more years while several other states had rates of 0.8 and over. Thus, the rate as given for a group represents the approximate risk of the occurrence of smallpox in any of the states in that particular group. The risk of the occurrence of smallpox in North Carolina, therefore, is approximately four to eight times greater than in the states in Group I.

Although the morbidity rate for this state for the last few years has varied from 0.1 to

1.0 this does not necessarily mean that this risk is of minor importance. The outbreak that appeared in Clay County only last year shows what might happen in any of several areas of the state when smallpox vaccination has not been carried out universally.

At the present time the North Carolina state law authorizes each local board of health to require vaccination as a prerequisite for attending school. In addition, the state law empowers the board of health of any county, city, or town to "... make such regulations and provisions for the vaccination of the inhabitants ... as they may deem necessary to protect the public health ..."

A recent survey has shown that the boards of health of several localities of the state have never used the powers granted to them and that, accordingly, smallpox vaccination of the population in those areas has never been complete.

The author of the article referred to above makes the following statement: "With all due regard for the need and effectiveness of general popular health education in the control of disease, and for the stimulative effect of a

high incidence of smallpox in promoting a temporary interest in vaccination in a state or community, it would appear that the best method of control of the disease is some type of directive law which requires the vaccination of children as a prerequisite to school attendance, regardless of the presence or absence of smallpox. This provides for a continuing protective procedure and prevents the building up, intermittently, of a large reservoir of susceptibles."

Legislation is now needed in North Carolina to make such requirements statewide. Scattered groups of non-immune persons will then no longer be subject to the risk of infection that might at any time break through the wall of immune persons surrounding them.

In view of the fact that complications of

vaccination are less frequent in the younger age groups, it would appear that vaccination should be required at a younger age than that of the school group. Pediatricians agree that the vaccination may be given as early as a few days after birth and that to administer the immunization sometime before the age of nine months is much to be preferred.

In 1943 there were sixteen states of the forty-eight and the District of Columbia in which no smallpox was reported for the entire twelve months. North Carolina reported twenty-one cases for the same period. With an adequate state-wide law and immunization of the balance of the population, the incidence of smallpox in this state can be reduced to zero within the next few years.

New Gains Chalked Up

BY WILLIAM H. RICHARDSON
State Board of Health, Raleigh, N. C.

THIS is not a history lesson, but for purpose of comparison let us go back for a moment to 1917, the year the United States became an active belligerent in the First World War. During that year, a fraction over fourteen out of every thousand persons living in North Carolina died, from one cause or another. During the following year, in which occurred the greatest scourge of influenza that has ever been loosed upon our people, nearly eighteen out of every thousand died. None of us who experienced them can ever forget the horrors of that year—with the flower of our manhood overseas and coffin boxes piled high on our railroad station platforms here at home—boxes containing the caskets of influenza victims being shipped for burial.

Whatever the hardships of the present war have been—and their name is legion—we, at least, have been spared a recurrence of the influenza epidemic in 1918.

In contrast with 1917 and 1918, the general death rate in North Carolina for 1944

was only 7.9, the lowest ever recorded in this state. Whereas, more than fourteen out of every one thousand persons in North Carolina died in 1917 and nearly eighteen out of every one thousand in 1918, fewer than eight died last year. This record was established as part of a sustained downward trend. The 1943 general death rate of 8.1 set a precedent up to that time, but the 1944 rate of 7.9 cut that figure by two-tenths of a point.

And here is the first of two additional outstanding records set last year in North Carolina—the third calendar year of our participation as an active belligerent in the Second World War. Our infant mortality rate of 44.7 was the lowest in our history—a distinct achievement. The fight to reduce this rate has been long and hard, and we still have a long way to go—but we have come a long way, too, since 1917, when North Carolina's infant mortality rate was 99.2, meaning that there were nearly 100 deaths among infants under a year old for every one thousand live births.

Last year there were fewer than 45 infant deaths for every one thousand live births.

A third record achieved last year in North Carolina was the reduction of the maternal death rate to 2.9, also the lowest in the state's history. That same rate in 1917 was 7.8, meaning that there were nearly eight maternal deaths for every one thousand births that year, as compared with less than three during 1944.

The reduction of our infant and maternal mortality rates might be attributed to various causes. In fact, these rates are being reduced throughout the nation, but they still are much higher in North Carolina than in many other states.

However, it now appears that we really are getting somewhere. The downward trend during the past few years has, on the whole, been sustained, with occasional interruptions. It might be well at this point to examine some of the probable causes of decreases in our infant and maternal death rates.

In the first place, we have established and are operating, at strategic points throughout the state, approximately 300 maternity and infant clinics, where indigent expectant and actual mothers and their babies are examined and treated without cost. These services undoubtedly have a tendency to reduce both morbidity and mortality among the women and children receiving them.

Another factor has entered into the picture since we entered the war. The Federal Government now, through state boards of health, is supplying funds with which free medical care and hospitalization are furnished wives and babies of service men in the fourth, fifth, sixth and seventh pay grades. This is officially known as Emergency Maternity and Infant Care Program. It includes free pre-natal, obstetrical, and post-partum care for mothers, and hospitalization, where this is needed, for mothers and for babies under a year old. A prospective mother receiving this care may choose her own qualified medical doctor, who is paid out of the special fund provided for the purpose, under rules and regulations prescribed by the State Board of Health. This is not "federalized" or "State" medicine—but

supplemental medicine.

Further details are unnecessary, but it can be readily seen that these services should have a distinct tendency to reduce infant and maternal mortality. Around 1,000 wives of service men are being delivered every month, free of cost to their husbands, themselves, or any member of their family. This means a total of considerably more than 10,000 a year, so you can see the direct bearing this program has on the total number of births occurring in North Carolina and the free health insurance it is providing the wives and babies of those who are now fighting our battles.

Let us now consider some of the other phases of North Carolina's vital statistics as reported for last year. Throughout 1944, there were only a dozen deaths in this state resulting from typhoid fever, as compared with 19 in 1943, and—believe it or not—839 in 1914 and 129 as late as 1933.

For the second consecutive year, one death from smallpox was reported in North Carolina during 1944, after many years in which none occurred. This should prove a warning to those who think "it can't happen here." It not only can but it will, if and when we become indifferent to the protection universal vaccination affords. On one occasion a Pullman porter who became ill with smallpox while going into a Canadian city touched off one of the worst epidemics in the history of the Dominion that resulted in hundreds of deaths. The moral here is: If you and (or) your children have not been vaccinated against smallpox, attend to the matter at once. Vaccination may be an unpleasant business, but nothing in comparison with smallpox.

It is gratifying to note that North Carolina's death rate from tuberculosis in all forms, in 1944, was only 36.5, as compared with 39.1 the previous year — and, incidentally — 99.1 twenty years ago, and 139.3 thirty years ago. But we can never be safe from the spread of tuberculosis until all the open cases are detected and segregated for treatment. That is why the United States government has just made \$10,000,000 available to the states to launch a tuberculosis fact-finding program,

aimed at the ultimate eradication of the Great White Plague—and why the State Board of Health asked the Legislature for an appropriation to enable North Carolina to participate in the program.

The continued downward trend of our pneumonia death rate, as reflected in the 1944 Vital Statistics report, also is very gratifying. During the year there were 1,555 pneumonia deaths reported in this state, with a rate of 41.5, as compared with 1,692 deaths and a rate of 45.7 in 1943. The lay population now has become fairly familiar with modern pneumonia control methods. It is very fortunate, however, that the drugs used can be dispensed only upon a physician's prescription, else their use might be as common and as damaging as that of some of the other forms of self-medication.

There were only 37 deaths from diphtheria in North Carolina last year, as compared with 56 in 1943. In twenty years the diphtheria death rate in this state has been reduced from

11.8 to just 1.0. A strict observance of the laws now on our statute books would result in the eradication of this crippling disease. It is just as easy as that.

Cancer deaths in North Carolina last year totaled 2,298, as compared with 2,317 in 1943—an actual decrease, for the first time in recent years. But the difference was so slight that it offers little, if any, encouragement, at the present time.

Throughout 1944 poliomyelitis deaths in this state numbered 44. That is the (tentative) official total for the year which included the most extensive polio epidemic in North Carolina's history—an epidemic which, although it constituted a sad experience, laid the groundwork for better control of this disease in the future.

These have been highlights of the 1944 Vital Statistics report for North Carolina—a report which, in the main, should give us much encouragement.

April Is Cancer Control Month

BY MYRTLE ELLEN LABARR, PUBLICITY DIRECTOR
N. C. Division of the Field Army American Cancer Society
Greensboro, North Carolina

"GUARD Those You Love—Give To Conquer Cancer!" is the appealing slogan for the ninth annual observance of April as Cancer Control Month. Men and women, some of the busiest citizens to be found throughout North Carolina will join citizens of other states in a nationwide campaign to raise \$5,000,000 for the conquest of the disease which ranks second as a destroyer of human life. Eric Johnston, President of the United States Chamber of Commerce, is Chairman for the national campaign, and Mrs. Harold V. Milligan, National Commander of the Field Army of the American Cancer Society, is Co-chairman.

The action of Congress in 1937 and the North Carolina General Assembly in 1939 in

designating April as Cancer Control Month focussed the attention of the public on this dread disease. Governor Gregg Cherry and mayors throughout the state have joined in the effort to stop the needless cancer deaths claimed by cancer by issuing proclamations calling upon all citizens to help with the fight.

The quota for North Carolina is \$135,628.56—on a per capita basis, less than the price of a bottle of a popular soft drink. County quotas have been set up, and indications are that workers are determined to pursue the campaign to a successful finish.

Mrs. George E. Marshall, of Mount Airy, State Commander of the North Carolina Division of the Field Army of the American Cancer

Society, points out that never before in the history of the Society, which has been waging an educational battle for the control of cancer since 1913, has more than \$750,000 been collected in any year for conquest of the disease which is second on the country's mortality table. She thinks it is high time that this cause receive adequate financing.

Mrs. Marshall says that the change in the name of the Society reflects the decision of its National Board of Directors to consider any and all matters connected with the fight on cancer of immediate and active concern to it. The legal change in the Society's name indicates its broader and more active program. It will extend and expand its efforts greatly, not only to educate the public but to obtain funds for cancer research, diagnosis and treatment, and education. It will not itself conduct any research nor own nor operate any hospitals, clinics, or laboratories. It will, however, raise and distribute funds to aid such institutions and projects as may be approved by the National Board of Directors.

At the same time that the name, the American Cancer Society, replaced the former one of American Society for the Control of Cancer, the Field Army replaced the former Women's Field Army. Mrs. Marshall observes that the new name is not only briefer but that it more accurately describes the organization. Ever since the Field Army, which is the lay educational branch of the Society, came into existence, men have taken an active interest in its work. After all, neither sex has a corner on the disease. In North Carolina, some of the officers have always been men.

The North Carolina Division has been able during the past year to expand its services. A textbook has been placed in high schools of the state as a part of a community life course. It was first tried out last year in the Mount Airy High School. Other states have become interested, and Vermont has liked the idea so well that it has decided to copy the plan in use in this state.

A new service added last year is the making of surgical dressings for the exclusive use of cancer patients. These are available to hos-

pitals, health departments, county nurses, and clinics needing them. The first unit was formed in Greensboro and others are getting organized. Two particularly active surgical dressings units are functioning in Asheville and Charlotte. Mrs. Grady Kirkman, of Greensboro, is State Chairman of Surgical Dressings.

The Field Army has made funds available to several cancer clinics. In fact, it was largely responsible for the opening of the Lucy H. Patterson Memorial Clinic in Winston-Salem and the one at Grace Hospital in Morganton last spring. Funds are made available to such projects only after the **State Executive Committee**, of which Dr. H. Webb Griffith, of Asheville, is Chairman, and the national society have approved of them. Members of the Cancer Committee of the Medical Society of the State of North Carolina are members of the Field Army's Executive Committee. In addition to Dr. Griffith, these are the following:

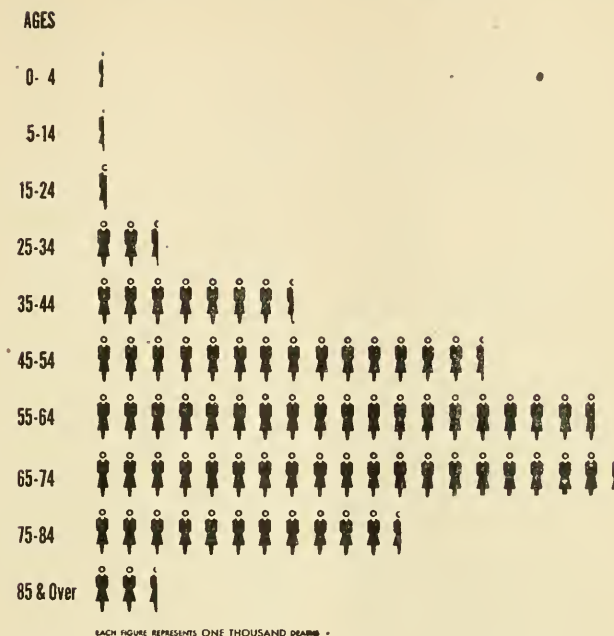
Dr. Robert P. Morehead, Winston-Salem; Dr. L. W. Oehlbeck, Morganton; Dr. Ivan M. Procter, Raleigh, who is also State Educational Director; Dr. W. D. James, Hamlet; Dr. O. B. Bonner, High Point; and Dr. E. McG. Hedgepeth, Chapel Hill.

Dr. W. Reece Berryhill, Chapel Hill; Mrs. Marshall; and D. C. Rector, Mount Airy, the State Treasurer, are also members of the State Executive Committee. Miss Harriet W. Elliott, of Greensboro, Dean of Women at Woman's College of the University of North Carolina, is Honorary State Commander. Miss Myrtle Ellen LaBarr, of Greensboro, is State Publicity Director.

The state headquarters occupies quarters in the Fulton Building in Mount Airy.

Since conquest of cancer is in large measure a matter of education, the Field Army places emphasis on its educational work. A great volume of literature is distributed free to organizations and to the public, particularly during the month of April. Last year over twenty-five sound films were circulated free for showing at meetings of clubs and other organizations. During the drive last year, 150 radio programs were broadcast over radio

CANCER DEATHS IN WOMEN BY AGES



stations of North Carolina. Plans that are materializing this month indicate that the number of such broadcasts will be much greater this spring. Information is also furnished speakers and writers and the press.

The Field Army is financed entirely by enlistments or memberships, which cost one dollar per year, and contributions from organizations and individuals. Contributions may be of any amount. The sale of books of air mail stickers is a new feature being used in the 1945 campaign.

The sole object for existence of the Field Army is to save lives now lost to cancer. Public cooperation is needed, both in the collection of funds and in the spread of information. Through the Field Army, the American Cancer Society is bringing to the attention of people in this state and elsewhere the fact that high percentages of certain types of cancer have been cured, when treated early. The necessity for early diagnosis and treatment is the basis of the program. The Field Army should be augmented by workers in every

county who will carry the message to the public so that every one may be armed in the fight against a scourge which has fed too long on general fear and ignorance.

Treated in its early stages by competent medical science, cancer can be cured. Doctors all over American are curing it. Proof may be found in the files of the American College of Surgeons, for they contain case records, all carefully documented, of tens of thousands of persons who have been cured by one or a combination of the three recognized methods of treatment. The American College of Surgeons does not count a case cured until the patient has gone at least five years after treatment without any recurrence of the disease.

Dr. Ludvig Hektoen, venerable President of the Board of Trustees of the Chicago Tumor Institute and pathologist in charge of its cancer diagnosis, has maintained for a long time that every cancer passes through a stage when surgery or radiation would cure it. The important thing is to find it while it is in its curable stage and treat it promptly. The vital point is

that diagnosis and treatment need to be early. The chances for a cure diminish in direct proportion to the delay in treatment.

The American Cancer Society gives the following information about the curability of four of the more common types of cancer:

Type of Cancer	The Percentage of Cures	
	Early Treatment	Late Treatment
Skin	95%	25%
Breast	75%	40%
Uterus	75%	15%
Lip	95%	25%

A lot remains to be learned about cancer.

Although the quest of medical science for a chemical or drug that will cure it has failed so far, thrilling progress has been made in methods of treatment. Madame Marie Curie gave radium to the world less than half a century ago. Advances in both surgery and radiology have been remarkable within the past decade. One of the most significant of recent developments has been the successful use of extremely high voltage x-rays and radium in saving cases once regarded as hopeless because they had progressed beyond the stage where surgery could be employed.

"Between 1920 and 1940," says Surgeon General Thomas Parran in his 1944 report, "10 years were added to the average length of life in the United States. Typhoid fever, smallpox, and diphtheria—for which we have effective controls—have become rare diseases. Even during the present war, these epidemic diseases have continued to decline. Despite the gradual aging of the population, there has been a steady decline in the general death rate throughout the past 25 years."

But the toll taken by cancer in the United States has continued to grow year after year for many, many years. It now ranks subordinate only to heart disease as a destroyer of human life, and takes an annual toll of more than 165,000 men, women, and children—eighteen every hour, Sundays and holidays included. It is more than three times as deadly as war, for the cancer deaths in one year are far greater than the total number of persons reported by the Army and Navy as having been killed during the first three years of our participation in World War II. Army and Navy

personnel killed between Pearl Harbor and December 14, 1944 numbered 134,143.

After soaring from 1,208 in 1922 to a record high of 2,317 in 1943, cancer deaths in North Carolina dropped in 1944. The disease claimed 2,298 lives in the state last year—nineteen fewer than for the year before. The rate, too, showed a drop from 62.6 in 1943 to 61.4 last year, according to figures compiled by the Bureau of Vital Statistics of the North Carolina State Board of Health.

While a decline in any one year cannot be accepted as definite evidence that a downward trend has started, it is entirely possible that the efforts of the North Carolina Division of the Field Army of the American Cancer Society are beginning to produce results. The Field Army is only eight years old, but in the past two or three years it has been expanding its program steadily. Physicians all over the state report that they are seeing more and more cancers in their early stages when the possibility of curing them is highest. Many of them give the Field Army credit for bringing about this situation.

That cancer deaths dropped last year is cause for rejoicing. But the sobering fact remains that North Carolina is losing many lives that should be saved. Many of the victims are men and women in those years when they are of greatest value to themselves and their communities. Cancer takes its heaviest toll among the mature. It is the greatest cause of death among women between thirty-five and fifty-four. More than half of the 2,298 cancer victims in 1944 died needlessly. Had they known the facts about cancer, had they received treatment early enough, they could have been spared.

Several reasons account for this frightful human erosion. Poverty is one. Lack of diagnostic and treatment facilities is another. Out of nearly four hundred approved cancer clinics and hospitals in the country, the American College of Surgeons lists but two in North Carolina—the diagnostic clinic in Greensboro and Duke Hospital in Durham. Two others which will probably rate approval at the end of their probationary period—one in Bowman

Gray School of Medicine in Winston-Salem and another in Grace Hospital in Morganton—were opened last spring with the help of funds raised by the Field Army.

Fear is another important factor in the high cancer mortality. Perhaps no other disease is feared as much as this one, and that very thing causes them to delay, to put off seeing a doctor and facing the facts. False modesty causes others to delay too long.

One of the greatest causes is ignorance of the facts about cancer and the urgent need for prompt treatment if life is to be saved. Too many men and women do not know the symptoms which often warn of the presence of early cancer. It is only when the malady has progressed to the point where pain occurs that they resort to medical science. The sad fact is that to wait for pain where this treacherous foe of life and happiness is concerned is to wait too long.

It is right here that the Field Army is doing its finest work. Its job is to see that every man and woman and child, humble or great, is made aware of the early symptoms and the importance of early and competent medical treatment whenever one of them occurs.

The symptoms which may indicate the presence of cancer are the following:

Any sore that does not heal normally, particularly if it occurs about the mouth, tongue, or lips; a painless lump or thickening, especially if it occurs in the breast, lip, or tongue; irregular bleeding or discharge from the nipple

persistent hoarseness that is not due to a cold; an unexplained cough or difficulty in swallowing; any change in the bowel habits.

The best protection the individual can have against cancer, according to the Field Army, is knowledge of the facts about the disease, courage to face the truth if the disease strikes, and a thorough physical examination once a year. Mrs. George E. Marshall, of Mount Airy, State Commander of the North Carolina Division, suggests that the individual have the health check-up on his or her birthday—sort or any body opening; progressive change in the color or size of a wart, mole, or birthmark; persistent and unexplained indigestion; of a birthday present to himself.

Right here Dr. Irma Henderson-Smathers, of Asheville, President of the North Carolina Federation of Business and Professional Women's Clubs, offers a bit of sound advice. She points out that a physical examination is only as good as it is thorough. The individual should insist on getting his or her money's worth just the same as if he or she were shopping for a garment or a piece of furniture. For women, the examination should include the breast and pelvic areas, sites of cancers most frequently found in women.

Widespread knowledge, regular health examinations, courage, early treatment, and a better distribution of diagnostic and treatment facilities can destroy cancer. It is a big job, but not too big for the great people of the great State of North Carolina.

Notes and Comment

BY THE ACTING EDITOR

CANCER **I**N the Journal of the American Medical Association of March 3rd. there is an interesting article by Dr. R. R. Spencer, Chief, National Cancer Institute, National Institute of Health, United States Public Health Service, on The Problems of Cancer Biology. This was a Barnard Hospital lecture delivered by Dr Spencer on

November 21, 1944. After a very competent review of our present knowledge and theories concerning cancer, Dr. Spencer gives us the following encouragement on:

THE PRESENT STATUS OF CANCER CONTROL AND RESEARCH

In the United States four philanthropic foundations use their funds exclusively for

the study of cancer. These foundations are (1) the Anna Fuller Fund, (2) the Finney-Howell Research Foundation, Inc., (3) the International Cancer Research Foundation and (4) the Jane Coffin Childs Memorial Fund for Medical Research. For more than thirty years the American Society for the Control of Cancer limited its activities largely to the dissemination of information about this disease. Now this organization has awakened to a fuller realization of its duties and responsibilities, has changed its name to the American Cancer Society and has launched a far broader and more ambitious program. Its new plans propose, in addition to lay and medical education, to render financial aid in support of the diagnosis and treatment of the cancer patient, to provide equipment and supplies for laboratories, clinics and hospitals, to house and care for the advanced cancer patient and to finance organized cancer research.

The University of Texas has set up at Houston a hospital for cancer research.

The University of Minnesota has established an Institute of Cancer Biology and is the first institution in the world to offer a doctorate in cancer biology.

Hahnemann Medical College in Philadelphia has a full time Department of Oncology and in this respect is unique among the medical schools of this country.

Cancer education is being extended to the curriculum of the public schools. In the summer of 1942 the New York Association of Biology Teachers adopted a new syllabus for the tenth year biology classes in schools throughout the city. For the first time the subject of cancer was included.

The federal government by an act of Congress (approved Aug. 5, 1937) created the National Cancer Institute in the United States Public Health Service. This institute is a division of the National Institute of Health. Drafted along liberal lines, the act empowers the Surgeon General, in cooperation with a National Advisory Cancer Council, to (a) conduct, assist and foster research, (b) provide training and instruction in the diagnosis and treatment of cancer, (c) provide research

fellowships in the institute, (d) secure for the institute consultative services and advice of cancer experts from the United States and abroad, (e) cooperate with state health agencies in the preventive, control and eradication of cancer and (f) procure, use and lend radium to other agencies and institutions.

The National Advisory Cancer Council, created under the same act, is authorized (a) to review research projects or programs submitted to it or initiated by it relative to the study of the cause, prevention or methods of diagnosis and treatment of cancer, (b) to collect information and make it available to scientists and the public and (c) to review applications for grants-in-aid for research and to certify to the Surgeon General its approval of grants for such projects which show promise. Several such grants have been made to Barnard Hospital.

At the present time fourteen of our forty-eight states have full time divisions of cancer control. In three of these states (Missouri, New Hampshire and Vermont) the law is administered by cancer commissions, in ten (Alabama, Connecticut, Georgia, Illinois, Maine, Massachusetts, New York, Rhode Island, South Carolina and West Virginia) by the State Department of Health, in one (Texas) by the state university.

A complete state cancer control program usually provides for:

1. The establishment of tumor clinics or hospitals for the diagnosis and treatment of cancer.
2. Reporting of cancer cases by physicians, hospitals and pathologic laboratories to the division of cancer control.
3. A system of follow-up of cancer cases.
4. Pathologic laboratories for tissue diagnostic service.
5. Statistical and epidemiologic records of case reports, death reports and pathologic laboratory reports.
6. Dissemination of information about cancer to physicians and to the public.

Mishaps are like knives, that either serve us or cut us, as we grasp them by the blade or the handle.—Lowell

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Sanitary Privies
Appendicitis	Health Education	Scabies
Cancer	Hookworm Disease	Scarlet Fever
Constipation	Infantile Paralysis	Teeth
Chickenpox	Influenza	Tuberculosis
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pediculosis	Vitamins
Endemic Typhus	Pellagra	Typhoid Placards
Flies	Residential Sewage	Water Supplies
Fly Placards	Disposal Plants	Whooping Cough

SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters.)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother.	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
Breast Feeding.	Instruction for North Carolina Midwives.
Infant Care. The Prevention of Infantile Diarrhea.	
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Some Nursing Activities of the Health Department During the Year 1944

By

VIRGINIA B. SMITH, Public Health Nurse
Boone, North Carolina

WORK has been greatly handicapped in the Health Department during the year due to the fact that Dr. King, the Health Officer, resigned in March to become a Medical Missionary in the Belgian Congo. To date the State Board of Health has been unable to find a physician to fill his position. However, we are very grateful to Dr. H. B. Perry for his splendid assistance and advice in carrying on the various activities of the Health Department.

Education of the people to use the scientific measures now available for their own protection and that of others is an essential factor in controlling the spread of communicable diseases. Sometimes it takes a sad tragedy as the one experienced in Watauga during the past summer to make the people realize this. During the months of June, July, and August there were reported in the same section of the county eleven cases of typhoid fever involving five households. No one in any of the households had ever been vaccinated against typhoid fever. Some did not believe in it and others thought it was against the Bible to be vaccinated. With the exception of one family we discovered the disease early enough to vaccinate the other members of the family, and therefore, had only one case in each family. However, it was necessary to be accompanied by the sheriff in order to vaccinate three members of one family. In the other household three members were already ill with typhoid when

we first contacted the family and three others became ill soon afterwards. It was impossible to care for all these patients under the home conditions. We were able to admit three of them to the Baptist Hospital, where one of them expired. The college came to our assistance and donated beds and mattresses, the Farmers Hardware gave screen wire for windows, and the women of Boone donated bed linen, night clothes, towels, and neighbors came in to nurse and bring them food.

Dr. R. K. Bingham was very faithful in prescribing medication and care for this family. Mr. Caudill was very cooperative in transporting the patients to and from Winston-Salem, and we are very grateful to those citizens of Boone and Mr. Jim Council's Sunday School Class for giving the money to meet these expenses; also to the other churches in the county that helped with the burial expenses and provided clothes for the family. It is encouraging to work with people with such enthusiasm, who realize that here on the home front the responsibility of every one of us is to insure better health and physical development for the world of tomorrow. As a result of this epidemic 2,093 persons in Watauga County were immunized against typhoid. Thirty-eight nursing visits were made by the Public Health Nurse to the eleven typhoid patients.

Watauga County suffered the usual com-

municable disease epidemics such as measles and whooping cough, however, the rate was not as high as in previous years. We regret very much having had one case of diphtheria in 1944. It will be a wonderful day when people wake up to the fact that diphtheria is preventable by immunization. 291 infants and small children were immunized against diphtheria in 1944 and 189 vaccinated for whooping cough. 520 children received the smallpox vaccination during the latter months of 1944. The smallpox vaccination was made compulsory for all school children.

Two new cases of tuberculosis were discovered and admitted to the sanatorium. For the first time we were able to give the tuberculin test to all the high school students in the county. Thirty of the six hundred forty-five tests given were positive and these children were given an X-ray examination at a clinic, sponsored by the local Tuberculosis Association and the Sanatorium. Watauga County had three deaths from tuberculosis during 1944.

Watauga County did not escape the polio epidemic that swept through the Catawba River Valley last summer. Sixteen cases were reported for the county. All of these patients were examined at the Emergency Polio Hospital in Hickory and all those requiring hospitalization were hospitalized with the exception of two. The parents refused to leave these children in the hospital. They were cared for in their homes and will be followed up through the Orthopedic clinic. One hundred eighty nursing visits were made to the polio patients.

There has been an increase in the number of venereal diseases. Contacts have been reported by the Army and Navy and also by the Rapid Treatment Center. Several local places were given as places of contact and exposure. The Mayor, Chairman of the County Board of Commissioners, Local Police, and Highway Patrolmen, all cooperated in reducing the spread of venereal diseases in the county. Fifteen patients were sent to the Rapid Treatment Center and many others were treated at the Health Department. During 1944 the Health Department sent nine hundred eighty-two

specimens of blood to the State Laboratory to be examined for syphilis. Fifty-eight smears were taken for gonorrhea and forty-nine urinalyses were made. Medical examinations were given to milk handlers and to two hundred forty-six food handlers. Health cards were also issued to twenty-seven domestic workers.

Our prenatal clinics were discontinued this year as we did not have a physician available to conduct them. However, two classes were held for expectant mothers, planning to be delivered by midwives, and were well attended. Many expectant mothers came to the office for advice while others were visited in their homes by the nurse. We find that more mothers are being delivered by doctors and also having hospital deliveries. The E.M.I.C. Program for wives of soldiers has influenced this greatly. During 1944 eighty-four women from Watauga County applied for this service. Of the three hundred eighty-one births reported in Watauga County during 1944, three hundred forty-four were delivered by doctors, three hundred three of these were hospital deliveries. Thirty-seven babies were delivered by midwives.

The local Red Cross Chapter provided cod liver oil for the indigent babies and prenatals. Thirty-four infants and fifty-four preschool children were given supervision during 1944. Pre-school clinics were held in all the consolidated schools during the month of May.

Nine hundred-nine school children were inspected by the nurse and eighty-eight home visits were made to follow up these inspections and help in getting corrections made. One thousand nine children were inspected by the school dentist and given prophylaxis.

Due to the polio epidemic we were able to have only seventy-seven tonsil and adnoid operations in Watauga County. The Blind Commission sponsored by the Boone Lions Club held two eye clinics during 1944. Ninety refractions were done and the Lions Club paid for the glasses of the children who were unable to pay.

Several crippled children were admitted to the hospital for corrections and followed up

through home visits and in the Orthopedic clinics.

It is very encouraging to note the difference in the attitude of the children regarding the nurses visit to the school. I remember when I first came to this county to work, four years ago, and visited the schools—some of the children would begin to cry when I entered the building, some refused to be inspected or vaccinated, while others went home, or "took to the woods." Now, I very seldom see a child cry, even in the first grade. Instead, they seem anxious to carry my school bag and

scales and to help set-up for inspections. We have very few children now that have not been immunized against diphtheria and vaccinated against smallpox.

The fact that there are so many things going on in the world today that cannot be helped makes it all the more important and desirable that we take advantage of those panaceas which are known to be effective. It is impractical, if not unpatriotic, to allow any disease to exist to any extent that is known to be preventable.

Maternity-Child Care For Service Men's Families

By

WILLIAM H. RICHARDSON

State Board of Health, Raleigh, N. C.

THE North Carolina State Board of Health's services to mothers, infants and small children, administered through the Division of Preventive Medicine, include participation in the activities of the School Health Coordinating Service, health education, the supervision of clinics for mothers and babies, work among crippled children, midwife control, and a vast amount of work in connection with the administration of the Emergency Maternity and Infant Care Program.

It was decided to devote this article to a discussion of the last named, that is, the Emergency Maternity and Infant Care Program.

This service was inaugurated on September the first, 1942. It provides for maternity care for all women whose husbands are in the 4th, 5th, 6th, and 7th pay grades of the armed forces—also for medical, hospital and nursing care for infants of these classes of service men during the first year of life.

The money for carrying on this work consists of Federal funds, channeled to the State Board of Health through the United States

Children's Bureau. In the beginning, it was more or less in the nature of an experiment, in response to wide-spread demands for some provision for the wives and infants of the lower paid members of the armed forces.

Let us consider the progress of this work in North Carolina. In April, 1943, a committee representing the medical profession was appointed to meet in Raleigh for the purpose of setting up rules and regulations to be followed in this State. Included in this group were practicing physicians, specialists in obstetrics and pediatrics, and surgeons representing the larger hospitals, as well as the small ones. After careful consideration, a system of regulations was adopted by unanimous consent. This was submitted to the Children's Bureau, which sustained a part of it and vetoed part.

Following this meeting, early in July, a committee of hospital managers was appointed to meet in Raleigh to set up rules and regulations and establish rates of pay within the limits allowed by the Children's Bureau for per diem compensation to hospitals.

By the end of the past biennium, about 110

hospitals, including a few small clinics operated by private physicians, had been accepted as participants in the plan. These hospitals represent every section of North Carolina, with only minor exceptions. Two or three other sections are only meagerly represented; but it may be said that about ninety per cent of the State, according to population, is properly covered by participating hospitals.

Among the restrictions in the plan as required by the Children's Bureau, patients' hospital care cannot be paid for except in a participating hospital which has applied for admission and submitted its cost breakdown.

The administration of the Emergency Maternity and Infant Care Program has required an immense amount of personal correspondence; and every effort has been made to give prompt attention to each individual inquiry and to make adjustments, when possible under the federal regulations. There have been some petty restrictions in the program which have not been altogether agreeable to the Board of Health and to the physicians alike; but, for the most part, the flow of service to the wives and babies of men the program is designed to help has suffered only minor setbacks because of these. Most of the hospitals have lived up to their obligations, as well as most of the physicians.

From April 1, 1943, through June 30, 1944, 14,289 maternity, and 561 infant cases had been authorized for service men's wives and babies through the North Carolina State Board of Health. Of these, 5,737 maternity, and 145 infant cases had been completed.

That was when the program was in its early stages. At the present time from 1,000 to 1,200 wives of service men are being delivered every month in North Carolina.

You may be interested in the amount of money involved in North Carolina's administration of this form of supplemental medicine. So far this fiscal year, that is, through March, 1945, the Children's Bureau has allocated to North Carolina for the prosecution of the EMIC Program the sum of \$1,048,178, making a grand total of \$1,855,703 since the program was launched. Of this grand total, \$1,095,625

has actually been spent in North Carolina for pre-natal, obstetrical and postpartum services to wives of men in the low grades of pay of the armed forces, and for medical care of their babies under a year old, including necessary hospitalization.

In the execution of this program, families of service men are allowed absolute freedom of choice as to doctors and hospitals: however, a participating hospital must be chosen, this being the only restriction.

Who is eligible for this service? All pregnant wives of enlisted men in the 4th, 5th, 6th, and 7th pay grades are eligible. This includes the sergeant, corporal, private and private first class in the army and marine corps; and third class petty officer, apprentice seaman, seaman first class and second class in the navy and coast guard. If the baby of any man in these classes needs medical or hospital care, the child is eligible, provided it is under one year old. The care is available only if the child is ill enough to be put in a hospital, in which case, both its doctor and hospital bills will be paid out of the EMIC fund.

Application papers are available at every city and county health department. If you cannot get the papers there, or if you wish additional information, address plainly, and intelligently: Dr. George M. Cooper, Director of Maternal and Child Health Services, North Carolina State Board of Health, Raleigh, and you will be promptly advised as to just how to proceed.

The application blank must be filled out jointly by you and the medical doctor of your choice. Be sure that your husband's name, rank, and serial number are filled in correctly. This is absolutely essential, if you are to be a beneficiary of this special service. Both you and your doctor will be notified when your application has been approved, and the State Board of Health will pay your doctor and hospital for all their services to you on and after date of authorization. For this reason, get this application blank authorized as early in your pregnancy as possible.

After the arrival of your baby, go back to your doctor, and let him make sure that you

are all right. Do not forget the final check-up he will give you 4 to 6 weeks after delivery. This is important, and your doctor also will be glad to check up on your baby during this period, in order to make sure it is getting along satisfactorily.

Remember, neither the doctor nor the hospital will accept any payment from you for any service for which the State Board of Health has agreed to pay them.

As previously stated, in order for the State Board of Health to pay your hospital bill, you must go to one of the participating hospitals, which you will find in all sections of the State. First class ward care is provided in each of these hospitals; but here is a very

important point for you to remember: If you will not accept ward service, but wish a private room, YOU will have to pay your own hospital and doctor bills. The free service, while liberal, does not extend that far.

If you are not able to locate a participating hospital near you, your local health officer—or the State Board of Health—will be glad to tell you the location of the nearest one.

The Children's Bureau has set up standards which each participating hospital has to meet to be approved. This has been done in order to provide the very highest type of care for the wives and babies of our men in the armed services.

Report Of A Consumers Food Handling School

By

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and

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INTRODUCTION

FOOD handlers schools for restaurant operators and food handlers have long been recognized as an excellent medium for the dissemination of a better knowledge and understanding of wholesome practices. But despite its wide spread application, in the scheme of public health education, many perplexing problems continue to confront public health officials concerning the manner of conducting these schools. The number of classes to hold, the type and extent of material to present, and the size and frequency of meetings are but a few of the many problems. To these can be added the problem of establishing either an inspectional and bacteriological or consumer inquiry "measuring-stick" by which any or all food handlers schools can be evaluated.

Much more experimental data than is now available will have to be accumulated before some of these vital questions can be satisfactorily answered. A solution to any or all of these unknowns would materially enhance the value of food handlers schools.

CONDUCT OF COURSE OF INSTRUCTION

A review of many published and unpublished reports, concerning the conduct of food handlers schools, indicates that fundamentally one of five major subjects generally forms the basis of instruction. These are arbitrarily classified as:—1. bacteriology, 2. communicable diseases, 3. medical zoology, 4. sanitization and food handling, 5. personal hygiene. The amount of stress or emphasis placed upon any one or more of these itemized subjects usually depends upon the manner of organization of

the food handlers school in question. Obviously in a school of instruction, entailing one meeting of from one to two hours, only one of the itemized subjects can be covered with any degree of thoroughness. The complexities involved in any one of the above mentioned subjects, together with the intricacies of presenting the information in mono-syllable terms, places a handicap upon the educator which precludes any possibility of doing justice to more than one subject in one hour. Any attempt to cover the material of two or more subjects in so short a period must be at the expense of clarity or completeness.

It is recognized that the need of presenting to food handlers all of the material in the five subjects is quite debatable. Much can be said to justify the presentation of only one one-hour lecture and demonstration on some special subject to one particular group of restaurant personnel; namely a discussion of dish-washing with dish washers, or a discussion of food handling and personal hygiene with waitresses. But the limitations of such instruction should be appreciated. Wholesome practices in food handling establishments embodies every aspect of the restaurant premises, all of its equipment and the methods employed by everyone associated with the establishment. Because of this inter-relationship even a limited knowledge of the public health significance of rodents and insects is as essential to a dish washer as sanitization of eating utensils is to a waitress. Beyond this meager but essential knowledge and understanding of the material covered in all five subjects, emphasis can then be placed on any one or more of the five subjects depending upon the recognized needs of the community of restaurants.

To aid in determining the need, if any, of presenting the material in all five subjects, an experimental food handlers school was presented to a group of high school students. To arouse consumer interest the subject was presented **from the consumers point of view**. Thus instead of stressing how to wash and sanitize eating utensils, emphasis was placed on why sanitization is essential. In like manner emphasis was placed on the public health

hazards of food borne infection and intoxication rather than on how such infections and intoxications occur.

Although the report of the consumer food handler school to be discussed does not contribute anything which aids in the solution of the problems stated above, certain consumer information was obtained which appears to be of value.

ORGANIZATION

The course of instruction was organized under the sponsorship of the Carteret County Health Department with the cooperation of Mr. H. L. Joslyn, Principal of the Morehead City High School. Classes consisted of approximately 250 high school students, their teachers and a few outside but interested adults. Restaurant operators and employees were invited to attend, having been notified through personal contact and appropriate newspaper announcements. Of considerable significance, particularly because Morehead City is the hub of many large military reservations, is the fact that without exception no restaurant employers or employees attended. In attempting to evaluate the lack of interest of restaurant operators and their personnel in the program, it should be said that no great amount of effort was expended in enlisting their cooperation. Failure to attend can also be attributed to the fact that publicity and personal contact relative to the school gave emphasis to the consumer value. What appears even more important is the fact that restaurant employer and employee attendance at food handlers schools is enhanced by presenting the course of instruction on the premises of the eating establishments rather than at some remote assembly room.

CLASSES

The course of instruction for the high school student-body consisted of four fifty-five minute lectures and demonstrations. The classes were temporarily made a part of the high school curriculum in that the meetings were held during the assembly period from 2 p.m. to 2:55 p.m. At the outset of each of the four meetings approximately 20 to 25 minutes was devoted to a verbal and black-

board demonstration of the subject under discussion. This was followed by a 12 to 20 minute presentation of an appropriate sound film. The remaining period of time was given over to questions and discussions.

CONSUMER REACTION

The greatest amount of interest demonstrated by the student body, as evidenced by the number and type of questions asked, was in the field of bacteriology and medical zoology. The lecture in bacteriology covered a review of the germ theory of diseases, a brief classification of bacteria, the elements of reproduction, the habitat of certain intestinal and respiratory bacteria and a few additional elementary facts about microorganisms. This aroused an interest in the subject to the extent of involving bacteriological techniques, immunology and bacteriological diagnostic procedures.

The period devoted to medical zoology covered briefly the public health significance and economic importance of rodents, the disease carrying properties of flies and other insects and a discussion of the recognized control measures. The interest demonstrated in this subject was largely due to the recent enactment of a typhus control program by

Morehead City. So much genuine concern was evidenced relative to the typhus control procedures that it was deemed advisable to suggest that the student body request their Health Officer to discuss the subject in detail at some later date.

Interest of the student body lagged during the periods devoted to personal hygiene, sanitization of eating utensils and food handling. A sufficient number of pertinent questions were asked following each lecture and demonstration however to indicate that the student body recognized the inter-relationship of all the subjects as necessary to an understanding of the requirements of better health and sanitation through eating.

CONCLUSION

The meager findings from this lone experimental consumer food handlers school are insufficient to warrant any reliable conclusions. It does suggest the potential possibilities of reaching operators and dispensers of food and drink through a potent channel—the consumer. If the conduct of such schools, fashioned to arouse public interest, merits further study, public schools and large industrial plants afford many opportunities.

New Disease Control Legislation Now In Effect

By

WILLIAM H. RICHARDSON

State Board of Health, Raleigh, N. C.

THE 1945 General Assembly passed or amended three laws designed to control communicable diseases in North Carolina. The first, requiring immunization against whooping cough, is an entirely new law; the second, dealing with vaccination against smallpox, places the matter on a statewide rather than an optional county basis, while the third revises the requirements imposed upon syphilitics who apply for license to marry.

As to the last-named, the law as originally written contained this provision:

"When the applicant with syphilis has been under continuous weekly treatment with adequate dosage of standard arsenical and bismuth preparation given by a regularly-licensed physician for a period of one year," etc.

In view of the development of rapid treatment centers since the statute was passed, the

following requirement has been substituted for the above:

"When the applicant has completed treatment and is certified by a regularly-licensed physician as having been cured or probated, and when said physician has certified that he has informed both the applicant and the proposed marital partner of any possible future infectivity of the applicant."

What this amendment really does is to cut down the period of waiting for marriage on the part of an applicant with syphilis until he or she is cured, revising the time element. This will be of distinct advantage to those syphilitics wishing to marry who take treatment at the Rapid Treatment Centers.

As to the amended smallpox vaccination law, the matter of admitting unvaccinated children to schools has been left with the various counties, which were permitted to require vaccination or not. As amended, the law requires that all children in every county of the State shall be vaccinated for smallpox before being admitted to any school.

It is provided that:

"All children in North Carolina shall be immunized against smallpox before attending any public, private, or parochial school.

"A parent or guardian, or person in loco parentis, of any such child not previously immunized, shall present the child to a physician licensed in North Carolina and request the physician to administer the necessary vaccine for immunization against smallpox.

"If the person is unable to pay for the services of a private physician, the child may be taken to the county health officer, or county physician of the county in which the child resides, where such service shall be provided free.

"The physician administering smallpox vaccine shall submit a certificate to the local health or quarantine officer and give a copy to the parent, guardian, or person in loco parentis, of the child."

Evidence of vaccination must be submitted to the school authorities before a child is allowed to enter.

The law is plain and hereafter it will be

strictly enforced. It became effective on the day it was ratified, which was March 10, 1945.

Whooping cough is now classed as a preventable disease. This imposes a direct responsibility on every parent or guardian of a child, to see that the child receives the protection science has provided. In the past this disease has claimed thousands of victims in North Carolina. As long as nothing could be done about it, that fact had to be accepted. The only thing to do was to see that the child was not exposed to another who had whooping cough. That is still advisable. Patients continue to be segregated, and every effort is made to prevent contacts that might lead to a further spread of the disease, which reaches epidemic proportions.

The passage of the new North Carolina law requiring immunization is an added precaution, which, in the future, must be taken.

In order that the reader may know just what this law provides, here are its provisions, and your close attention is invited as these provisions are read:

"All children in North Carolina are required to be immunized against whooping cough before reaching the age of one year.

"A parent, guardian, or person in loco parentis, of any such child not previously immunized, shall present the child to a physician licensed in North Carolina and request the physician to administer to such child a sufficient dosage of a prophylactic whooping cough agent. All whooping cough prophylactic agents used in compliance with this section must meet the standards required by the State Board of Health.

"If the person is unable to pay for the services of a private physician, or for the prophylactic agent, the child may be taken to the county health officer or county physician of the county in which the child resides where such prophylactic agent shall be provided and administered free. The county appropriating body shall make available funds for the purchase of such immunizing agent for such cases.

"The physician administering the whooping cough dosage shall submit a certificate

to the local health or quarantine officer and give a copy to the parent, guardian, or person in loco parentis, of the child. Forms for the certificate shall be supplied by the State Board of Health.

"No principal or teacher shall permit any child to enter a public, private or parochial school without the certificate provided for or some other acceptable evidence of immunization against whooping cough.

"If any physician, licensed to practice in North Carolina, certifies that such dosage is detrimental to a child's health, the requirements of this section shall be inapplicable until such dosage is found no longer to be detrimental.

"The wilful violation of any part of this section is a misdemeanor punishable by a fine of not more than fifty dollars or by imprisonment for not more than thirty days in the discretion of the court; provided this Act shall not apply to children whose parent or parents or guardian are bona fide members of a recognized religious organization whose teachings are contrary to the practices herein re-

quired, and no certificate for admission to any public, private or parochial school shall be required as to them.

"All laws and clauses of laws in conflict with this Act are hereby repealed."

The provision exempting those religious tenets forbid medical treatment of or vaccination against disease, does not apply to individuals who might claim to be simply conscientious objectors in the matter of immunization. They must be bona fide members of a religious organization, which objects collectively, not individually. In other words, an individual parent cannot escape the responsibility of having his or her child immunized against whooping cough simply because he or she, individually, does not choose to believe in it. Such an individual must be a member of a recognized religious group which objects to vaccination as a matter of principle and not prejudice.

The law requiring immunization against diphtheria was corrected as to the technical wording, but none of its requirements was altered by amendment.

Notes and Comment

By THE ACTING EDITOR

FRONT COVER SALLIE Virginia Thompson, 4 years old, is the daughter of Mrs. Virginia Ponton Thompson and the late Ben O. Thompson. Her mother is a member of the office staff of the State Laboratory of Hygiene. Sallie, therefore, has a special claim on the affections of health workers. She personifies health. She has been protected by immunization. She is well nourished because she eats the right foods and in right quantities. She gets an adequate amount of sleep and is not nervous nor fretful. She is keen and alert mentally and full of vitality.

APPRECIATION All of us have vivid memories of the tributes which were paid to the memory of President Roosevelt. For days after his death was

announced we could hear over the radio or read in our newspapers expressions from all parts of the world. The Chinese felt that they had lost their best friend—the French, the Belgians and the English. All nationalities who are not actually at war with us expressed their sadness and their loss. With words as well as with tears—our own country, those of the theatrical world joined with those of the sports world by paying tribute to a man who had befriended them. Few indeed were those who were too inarticulate to express a deep feeling of loss. Future historians will, of course, appraise the real statue of the man. We, who have labored in the field of public health for any considerable number of years, cannot be unmindful of the difference between the public health work prior to 1933 and that

as we know it today. Up until the time of Roosevelt it was most difficult to secure appropriations sufficient to carry out even meager programs. With the enactment of Social Security legislation we entered a new era. With Title VI Funds and Children's Bureau Funds vast expansion was possible. Younger and better qualified personnel could be induced to enter the profession. Training schools were set up—Public Health Work unquestionably became a definite profession. Appointments were made principally on the basis of merit instead of on the basis of political consideration which had been one of the traditions as well as one of the handicaps in gone by years.

Liberal appropriations were made for Venereal Disease Control; for the investigation of cancer, the control of tuberculosis. Financial aid made possible the construction of hospitals and health centers, laboratories and other physical equipment which have advanced the cause of public health and which have made it possible not only to save lives but to promote healthful living for the poor as well as the rich—the meek and humble as well as the arrogant—the urban as well as the city dweller. There has been little criticism of what has been accomplished. We have no desire to discuss that which was proposed. Those of us who have witnessed the changes are just as profoundly moved by the loss of our friend as those in the theatrical profession and qualified by training to express themselves more effectively.

President Roosevelt was a friend of public health from the beginning of his administration. When he was Governor of New York he increased his understanding of the aims and objectives of public health by close association with the State Health Commissioner, Dr. Thomas Parran, who had been loaned to New York State by the United States Public Health Service. He learned to appreciate Dr. Parran so well that he used his first opportunity to appoint Dr. Parran as Surgeon General of the United States Public Health Service. An aggressive leader himself, President Roosevelt, admired the progressive leadership of Dr. Parran. He gave sympathetic consideration to Dr. Par-

ran's plans, his hopes and his objectives. The activities of the Public Health Service have expanded, its personnel has grown. Kindred agencies, particularly the Children's Bureau, have performed commendable service. The improvement, however, in our health protective mechanism has extended to the people—even those in sparsely settled and remote areas. No community in this broad land of ours has failed to receive the benefits of a program encouraged by President Roosevelt for the improvement of the health of our people.

Even though the problems of the war and plans for an enduring peace had drained President Roosevelt's strength, he did not lose his interest in plans for protecting the health of our people. Only five days before his death he issued a proclamation designating May 1st as Child Health Day. This may be the last health document to bear his name. The sentence, "I further urge our citizens to mobilize community resources for the better care of our children so that the growing generation will be strong to mold the peace," is a clarion call to all who would honor the memory of a man who has done so much for the cause of public health.

BY THE PRESIDENT OF THE UNITED
STATES OF AMERICA
A PROCLAMATION

WHEREAS the health and vigor of the Nation's citizens are not only essentials in the achievement of peace but also goals for the fullest enjoyment and perpetuation of peace; and

WHEREAS it has been demonstrated that many physical defects which handicap large numbers of adult citizens are evident during childhood, and could be prevented or corrected with proper care at that time; and

WHEREAS good community planning for the health and care of our children starts with the registration at birth of all babies; and

WHEREAS each year the births of tens of thousands of our babies are not officially registered; and

WHEREAS the Congress by joint resolution of May 18, 1928 (45 Stat. 617) authorized

and requested the President of the United States to issue annually a proclamation setting apart May 1 as Child Health Day:

NOW, THEREFORE, I, FRANKLIN D. ROOSEVELT, President of the United States of America, do hereby designate the first day of May of this year as Child Health Day.

And I call upon the people in each community to use that day as an occasion to impress upon parents the importance of registering the birth of every baby born in the United States; and I further urge our citizens to mobilize community resources for the better care of our children so that the growing generation will be strong to mold the peace.

IN WITNESS WHEREOF I have hereunto set my hand and caused the seal of the United States of America to be affixed.

Done at the City of Washington this seventh day of April in the year of our Lord nineteen hundred and forty-five and of the Independence of the United States of America the one hundred and sixty-ninth.

(SEAL)

FRANKLIN D. ROOSEVELT.

By the President:

E. R. STETTINIUS, JR.
Secretary of State.

STATISTICS For many years the May issue of THE HEALTH BULLETIN has featured child health. In these issues we have endeavored to supply statistical material which would enable thoughtful students of our problems to determine some of the progress which we have made and some of the difficulties which we face. On page 15 you will find a table giving the live births, infant mortality and maternal mortality in the United States during the year 1943. On page 16 we have comparable data for each of the counties in North Carolina for the year 1944. In comparing these tables with the tables given in previous bulletins we find that North Carolina has made much progress in reducing its infant and maternal mortality.

	Birth Rate	Infant Mortality	Maternal Mortality
1941	23.7	59.8	4.0
1942	25.2	49.2	3.4
1943	28.1	46.7	3.2

If a high birth rate is a distinction, we rank 6th among the states. Measured in terms of progress we can take considerable pride in a reduction of our infant mortality rate. There are eleven states that have a higher infant mortality rate than North Carolina, but our rate is still considerably higher than the average for the country. The eleven states which have higher rates than ours are as follows: New Mexico, Arizona, South Carolina, Nevada, West Virginia, Texas, Maine, Colorado, Kentucky, District of Columbia, Virginia. In the State of Oregon only thirty out of every thousand children born alive die before they reach the age of one year. In the process of bringing forth new life the mother in North Carolina does not fare as well as the mothers in 43 other states. Our maternal mortality rates are considerably lower than they were but our rate of progress in protecting them is no rapid than it is in other states. New Mexico, South Carolina, Arkansas, Georgia, Mississippi, and Florida have higher rates than North Carolina yet the hazards of maternity in North Carolina are twice as high as are those of the mothers in Minnesota which has a rate of 1.4 or in Oregon and Wyoming which have rates of 1.5 or of Washington, Utah, South Dakota or Connecticut which have rates of 1.6. Our effort should be exerted unrelentingly to afford every protection possible to our mothers and infants. Certainly they are entitled to just as good care as those mothers and infants in any other state.

ACCIDENTS Our child health problems are numerous and varied.

As causes of death among young people accidents outranks all other causes. In 1942 in the United States there were 7,220 accidental deaths in children under five years of age. Of these 1,069 were due to motor vehicles; 450 were due to falls; 1,700 were due to burns; 690 were due to drowning; 79 were blameable to railroad accidents; 94 were caused by fire-

arms; 50 by poison gases and other poisons accounted for 520. In children from 5 to 14 there were in the nation 6,340 accidental deaths. Nearly 2,000 of these were due to motor vehicles. The number of deaths due to falls were approximately the same as in the younger age group; burns were greatly decreased but there was a marked increase in deaths due to drowning, railroad accidents and firearms, while poison gases and other poisons accounted for only 140. Accidental deaths are preventable. Unfortunately we give little thought to the prevention of accidents.

POSTURE IN THE SCHOOL CHILD

One of the important but often neglected aspects

of child welfare is posture. From the Connecticut Weekly Health Bulletin we borrow—

"The following are a few questions which parents should ask themselves about their children's posture:

1. Does my child have an even, firm mattress on his bed? Does he get sufficient rest?
2. Does my child receive a well balanced diet adequate in quantity for his daily needs?
3. Does my child have good vision and is the night lighting in our home sufficient to avoid eyestrain?
4. Does my child receive a physical check-up periodically?
5. Does my child have stockings long enough and shoes which fit properly so that his feet have sufficient room and are well supported? Are the shoes kept even and not allowed to wear down on one side?
6. Is his clothing loose enough so that it does not restrict his activities?
7. Does my child have a normal, happy active life?
8. Do I instill in my child a desire for correct carriage?

If these questions can be answered in the affirmative, the child, unless he has a physical handicap should be able to develop good body mechanics.



Kenneth Clark Kallam, three year old son of Mr. and Mrs. Allen Kallam of Mount Airy, North Carolina, Route 4. His mother informs us, "Every day has been a perfect day of health." He has been protected by immunization from whooping cough and diphtheria.

Below are listed a few of the common body positions and activities through which good good mechanics may be acquired.

Standing Position: Head high, chin in; chest high and forward; abdomen firm and flat.. Knees straight but not over extended; feet parallel.

Sitting Position: Head high; abdomen flat; hips placed well back in chair; right angle bend of hips, knees and ankles; lower back supported by chair; both feet flat on floor.

Type of chair depends upon (a) height of seat from floor same as length from foot to knee, (b) depth of seat same as length of child from knee to buttock, (c) back of chair straight or slightly tilted backwards.

Climbing Stairs: Keep trunk straight; swing body with leg going forward and bending of knee; push with the back foot.

LIVE BIRTHS, INFANT MORTALITY AND MATERNAL MORTALITY UNITED STATES, 1943

STATE	Live Births		Infant Mortality (Death in the 1st Year of Life)		Maternal Mortality	
	Number	Rate Per Thousand Population	Number	Rate Per Thousand Live Births	Number	Rate Per Thousand Live Births
United States.....	2,934,860	21.5	118,484	40.4	7,197	2.5
Alabama.....	77,535	28.2	3,477	44.8	260	3.4
Arizona.....	14,297	25.5	1,097	76.7	38	2.7
Arkansas.....	42,589	23.7	1,594	37.4	168	3.9
California.....	174,420	23.0	5,999	34.4	357	2.0
Colorado.....	24,367	22.9	1,228	50.4	63	2.6
Connecticut.....	39,005	22.3	1,162	29.8	63	1.6
Delaware.....	6,229	23.0	291	46.7	15	2.4
District of Columbia.....	16,080	19.5	765	47.6	35	2.2
Florida.....	46,744	23.8	2,181	46.7	173	3.7
Georgia.....	78,387	26.4	3,656	46.6	307	3.9
Idaho.....	12,391	26.5	396	32.0	29	2.3
Illinois.....	155,735	20.7	5,184	33.3	320	2.1
Indiana.....	74,672	22.4	2,960	39.6	149	2.0
Iowa.....	47,617	20.8	1,618	34.0	80	1.7
Kansas.....	36,021	21.3	1,212	33.6	77	2.1
Kentucky.....	65,566	25.3	3,280	50.0	163	2.5
Louisiana.....	62,005	26.7	2,773	44.7	199	3.2
Maine.....	18,944	23.8	972	51.3	42	2.2
Maryland.....	47,371	23.9	2,037	43.0	85	1.8
Massachusetts.....	85,917	20.9	2,939	34.2	173	2.0
Michigan.....	125,778	23.5	4,813	38.3	226	1.8
Minnesota.....	58,508	22.9	1,809	30.9	84	1.4
Mississippi.....	59,846	30.2	2,800	46.8	236	3.9
Missouri.....	72,458	20.1	2,918	40.3	183	2.5
Montana.....	11,407	24.0	442	38.7	20	1.8
Nebraska.....	25,048	21.1	889	35.5	42	1.7
Nevada.....	3,026	23.7	158	52.2	6	2.0
New Hampshire.....	9,367	20.7	432	46.1	25	2.6
New Jersey.....	83,032	20.2	2,796	33.7	161	1.9
New Mexico.....	15,211	31.1	1,394	91.6	71	4.7
New York.....	248,627	19.7	8,126	32.7	521	2.1
North Carolina.....	94,568	28.1	4,416	46.7	306	3.2
North Dakota.....	13,422	24.9	468	34.9	39	2.9
Ohio.....	144,087	21.1	5,640	39.1	324	2.2
Oklahoma.....	48,639	23.9	2,068	42.5	122	2.5
Oregon.....	25,450	21.9	763	30.0	38	1.5
Pennsylvania.....	199,366	21.3	7,551	37.9	493	2.5
Rhode Island.....	14,667	21.1	638	43.5	33	2.2
South Carolina.....	54,144	30.1	2,985	55.1	240	4.4
South Dakota.....	12,816	23.4	457	35.7	20	1.6
Tennessee.....	70,203	24.9	3,143	44.8	204	2.9
Texas.....	164,513	26.3	8,454	51.4	420	2.6
Utah.....	17,161	29.6	539	31.4	27	1.6
Vermont.....	7,303	22.9	285	39.0	16	2.2
Virginia.....	72,157	26.2	3,395	47.1	210	2.9
Washington.....	44,520	24.0	1,550	34.8	72	1.6
West Virginia.....	43,372	24.8	2,261	52.1	126	2.9
Wisconsin.....	64,450	21.8	2,257	35.0	127	2.0
Wyoming.....	5,822	25.2	216	37.1	9	1.5

TOTAL NUMBER OF BIRTHS AND DEATHS UNDER ONE YEAR OF AGE (EXCLUSIVE OF STILLBIRTHS) ALSO MATERNAL DEATHS IN EACH COUNTY, WITH RATE PER THOUSAND LIVE BIRTHS, 1944

	Infant Mortality Place of Death		Maternal Mortality Place of Death		Total Births By Place of Birth		Infant Mortality Place of Death		Maternal Mortality Place of Death		Total Births By Place of Birth
	No.	Rate	No.	Rate	No.		No.	Rate	No.	Rate	No.
Entire State	4,091	45.2	262	2.9	90,481	Johnston	40	30.7	0		1,301
Alamance	35	26.9	4	3.1	1,299	Jones	6	28.6	0		210
Alexander	13	63.1	1	4.8	206	Lee	27	38.4	0		702
Alleghany	1	10.2	0		98	Lenoir	72	50.2	9	6.3	1,435
Anson	24	35.1	2	2.9	683	Lincoln	25	38.6	0		646
Ashe	23	51.6	2	4.4	446	McDowell	29	47.2	3	4.9	615
Avery	14	30.8	1	2.2	454	Macon	13	28.6	2	4.4	455
Beaufort	63	61.4	9	8.8	1,026	Madison	20	56.3	0		355
Bertie	30	40.6	1	1.4	739	Martin	19	27.4	1	1.4	691
Bladen	33	49.8	4	6.0	663	Mecklenburg	229	55.6	8	1.9	4,115
Brunswick	17	44.1	2	5.2	385	Mitchell	6	15.2	1	2.5	394
Buncombe	116	47.9	9	3.7	2,422	Montgomery	7	21.7	0		322
Burke	31	36.3	3	3.5	854	Moore	29	38.8	4	5.4	746
Cabarrus	37	25.8	2	1.4	1,433	Nash	86	55.7	7	4.5	1,543
Caldwell	48	50.2	4	4.2	956	New Hanover	156	58.4	10	3.7	2,669
Camden	9	97.8	1	10.8	92	Northampton	15	26.6	1	1.8	563
Carerret	18	31.6	0		569	Onslow	42	36.6	0		1,146
Caswell	18	46.8	2	5.2	385	Orange	8	44.4	1	5.6	180
Catawba	46	35.0	2	1.5	1,314	Pamlico	9	43.4	1	4.8	207
Chatham	23	53.4	1	2.3	431	Pasquotank	42	52.3	4	5.0	802
Cherokee	18	29.8	0		605	Pender	16	41.8	0		382
Chowan	8	29.0	0		276	Perquimans	6	30.4	1	5.0	197
Clay	3	27.7	0		108	Person	18	27.3	0		659
Cleveland	49	29.4	2	1.2	1,666	Pitt	68	45.5	3	2.0	1,493
Columbus	68	52.0	2	1.5	1,308	Polk	11	40.7	0		270
Craven	54	63.6	4	4.7	849	Randolph	31	34.1	2	2.2	909
Cumberland	131	63.5	7	3.4	2,063	Richmond	45	49.0	1	1.1	918
Currituck	1	10.0	0		100	Robeson	112	44.4	15	5.9	2,525
Dare	0		1	11.1	90	Rockingham	58	45.6	2	1.6	1,271
Davidson	49	46.0	2	1.9	1,063	Rowan	51	41.4	2	1.6	1,230
Davie	8	34.3	0		233	Rutherford	42	41.8	4	4.0	1,003
Duplin	36	40.8	0		882	Sampson	53	44.8	2	1.7	1,184
Durham	146	52.4	19	6.8	2,782	Scotland	35	45.2	3	3.8	775
Edgecombe	51	41.0	3	2.4	1,244	Stanly	35	44.4	0		789
Forsyth	136	44.2	7	2.3	3,073	Stokes	8	24.4	1	3.1	327
Franklin	25	43.7	3	5.2	572	Surry	61	47.2	3	2.3	1,293
Gaston	103	57.0	5	2.8	1,806	Swain	9	27.9	0		322
Gates	9	41.6	0		216	Transylvania	16	47.4	3	8.9	337
Graham	7	34.0	0		206	Tyrrell	11	53.6	0		205
Granville	30	40.2	3	4.0	746	Union	37	35.5	2	1.9	1,041
Greene	12	27.6	0		434	Vance	56	68.8	1	1.2	814
Guilford	189	50.2	11	2.9	3,766	Wake	94	37.0	15	5.9	2,541
Halifax	73	45.5	5	3.1	1,604	Warren	42	72.8	1	1.7	577
Harnett	41	32.4	3	2.4	1,265	Washington	19	84.8	0		224
Haywood	38	47.7	0		796	Watauga	11	27.4	1	2.4	401
Henderson	27	42.3	1	1.6	638	Wayne	77	58.0	7	5.3	1,326
Hertford	23	67.0	1	2.9	343	Wilkes	49	49.6	4	4.1	986
Hoke	20	55.2	1	2.8	362	Wilson	69	48.2	6	4.2	1,431
Hyde	1	9.9	0		101	Yadkin	7	45.1	1	6.4	155
Iredell	72	50.4	10	7.0	1,426	Yancey	13	38.6	0		337
Jackson	24	62.5	1	2.6	384						



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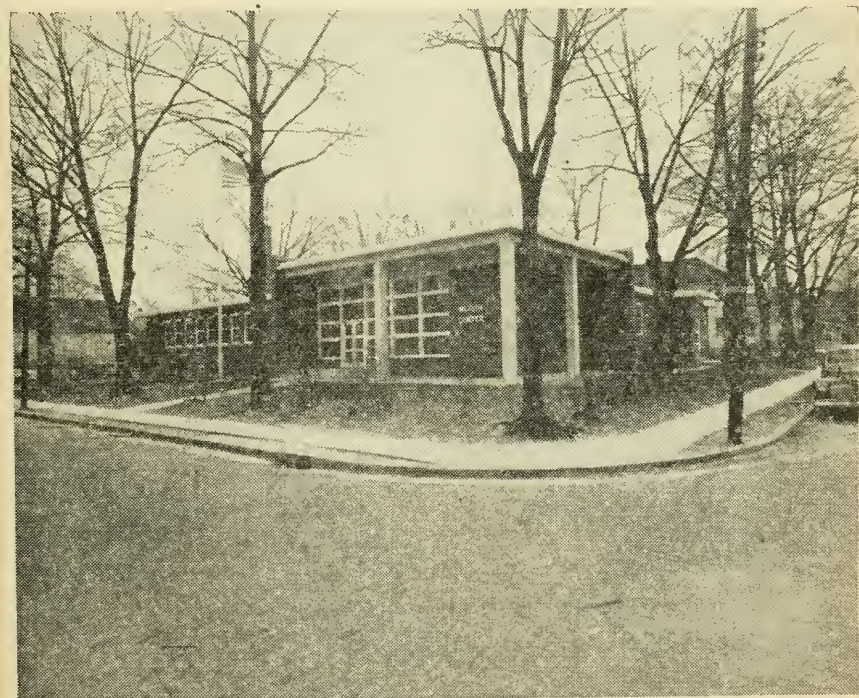
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JUNE, 1945

No. 6



HEALTH CENTER, ELIZABETH CITY

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The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

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SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.	Baby's Daily Time Cards: Under 5 months;
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The Expectant Mother.	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
Breast Feeding.	Instruction for North Carolina Midwives.
Infant Care. The Prevention of Infantile Diarrhea.	
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CARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

The Health Center in Elizabeth City, North Carolina

By

DANIEL C. HACKETT, M.D.

District Health Officer, Elizabeth City, N. C.

THE Health Center in Elizabeth City was occupied as the central office and clinic of the Pasquotank-Perquimans-Camden District Health Department on March 5, 1945; and was dedicated with an address by Dr. Harry S. Mustard, of Columbia University, on April 24.

In October of 1942 it was already apparent that the newly-formed Pasquotank County Health Department (organized on July 1, 1942) could not perform the necessary work efficiently in office facilities then available in Elizabeth City, though there were then only six members of the Staff. For a time it was thought that the Albemarle Hospital might be replaced by a new building, and that part of the old hospital might be remodelled for the use of the Health Department. In January, 1943 Perquimans County was joined with Pasquotank, forming a District Health Department, and adding to the administrative and clinical work done in the Elizabeth City quarters.

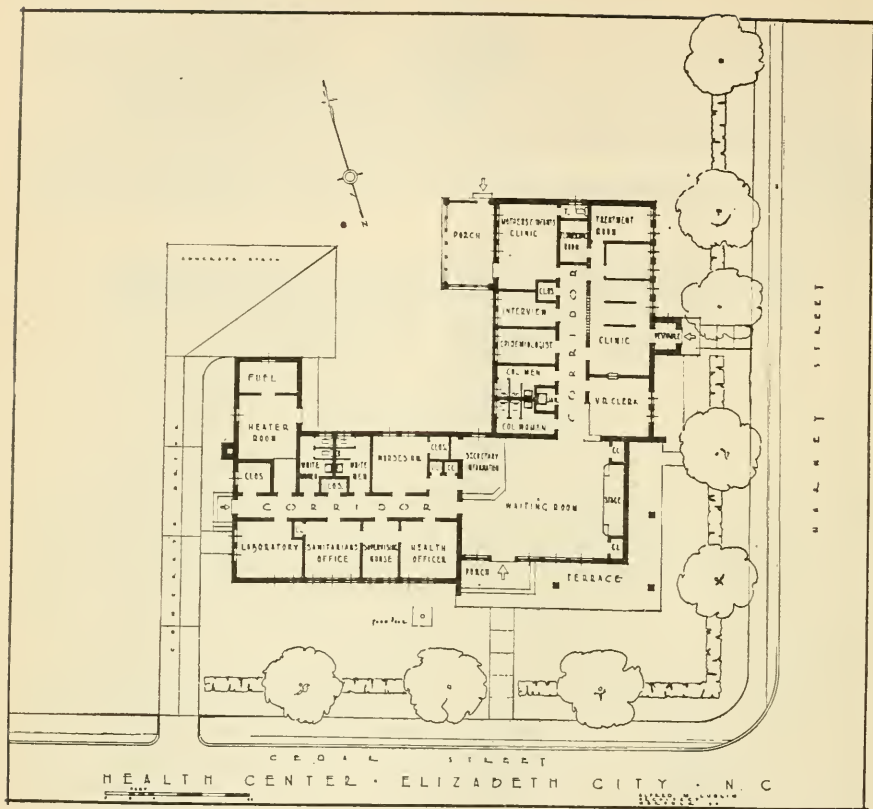
In July, 1943, it was definitely decided that the Albemarle Hospital building would be enlarged and rebuilt, and there was no longer any prospect that it could be used to house the Health Department. The Pasquotank County Commissioners immediately made application to the Federal Works Agency for construction of a new Health Center in Elizabeth City. Mr. Alfred M. Lublin, of

Norfolk, was retained as architect, and visits were made by the health officer and architect to the health centers then under construction or completed in New Bern, Jacksonville, Wilmington, Fayetteville and Goldsboro in North Carolina; and at Blackstone and Portsmouth, Virginia.

Plans were drawn for a one-story, L-shaped building, centering on a combined entrance, waiting room and auditorium. One entire wing of the building is planned for clinical activities with space for clerical work, nurses interviewing, a clinic doctors office, a maternity and infancy classroom which also has space for dressing and undressing babies as well as weighing and measuring them, a combined fluoroscopic and X-ray room, two examining rooms, two booths for intra-muscular and spinal work, and a radial table used for arm treatments, blood tests and immunizations. All of these clinical facilities are generously provided with closet and cabinet space.

The waiting room and auditorium has a small platform stage, with large closets at either side for storage of the moving picture projector and other educational supplies. In one corner of the waiting room is the secretary's desk where files are kept, phone calls are handled, and information is available to all entering the building.

The administrative wing of the building opens from the back of the waiting room by



a self-closing door. Along this corridor are the offices of the health officer, public health nurses, education consultant, and sanitary inspectors. On this wing also are a laboratory equipped to do blood tests, and milk cultures and analyses, and other laboratory procedures. There is also a storage room for drugs and supplies which come to the department in bulk. The Boiler Room, which opens off of the administrative corridor, is equipped with a fully automatic stoker supplying heat and hot water throughout the year.

The clinical and service facilities of the building occupy approximately 65% of the floor space, only 25% being devoted to administrative activities, and the other 10% being in the boiler room and closets. The same facilities are used for all types of clinical work, by strict separation of the various activities at

specified times. Prenatal, planned parenthood, well-baby, orthopedic, food-handler, fluoroscopic, venereal disease, immunization and school health clinics are all held separately. An exit at the side of the clinic wing makes it possible for all patients to proceed directly through the clinic without ever retracing their steps.

A screened porch opens from the maternity and infancy classroom and is provided with a childrens' table and chairs so that they can play safely without interfering with activities within the building. Around two sides of the waiting room is a large porch, covering the entrance, which is suitable for baby-carriage and stroller "parking."

The building is located at Cedar and Harney Streets on a high lot 125 by 140 feet. This lot is the former location of the Elizabeth City

Primary School. The Girl Scout House and the American Legion Hut are on the same block with the Health Center, and the Elizabeth City Primary, Elementary and High Schools are all within three blocks. The Health Center is just five blocks from the Courthouse Green which is the center of the city.

Faced with Bradford Red pressed brick, and with a flat, overhanging, concrete-slab roof, the Health Center is of the most modern fireproof construction. All walls are of brick and cinder block; floors are of concrete, covered with marbled red and black asphalt tile. The roof is insulated with a thick covering of Vermiculite from western North Carolina, and covered with a 16-ply tar roof. There is a 35 foot cypress flagpole just to the left of the entrance, and the contract called for proper covering of the site with topsoil and seeding; an excellent lawn is now flourishing all around the building. Exterior concrete is painted a light gray and exterior woodwork is white. All interior walls are finished in a rough plaster with "powder gray" Texolite paint and interior woodwork is a light blue. The large window which fills the entire front wall of the entrance and waiting room is of ribbed "Louvre" glass, as are all the exterior doors of the building.

By the time that formal application was made to the Federal Works Agency for the building, in November, 1943, Camden County had been joined to the District Health Department, so that the total population to be served was approximately 40,000, and the personnel working in Elizabeth City numbered ten. The Pasquotank County Commissioners were most anxious that the building should become the property of the County upon completion; and to this end they offered to advance \$7500 for "non-federal" construction. Representatives of the Federal Works Agency considered this sum insufficient, however, and the application was submitted for "federal" construction and ownership, calling for an appropriation of \$45,100.

In April of 1944 word was received that \$38,640 had been allocated by the Federal

Works Agency for construction of the Health Center by the Public Buildings Administration. The Architect and Health Officer immediately went to the offices of the Public Buildings Administration in Washington where it was requested that the plans be scaled down to permit construction of the building with the funds allocated. It was demonstrated to representatives of the U. S. Public Health Service, Public Buildings Administration and Federal Works Agency that cutting the building down to fit within the appropriation allocated would make it almost useless for the population to be served. It was decided to proceed with the plans as projected, and to ask for a further allocation of funds from the Federal Works Agency.

Final plans and specifications were completed during May. Bids were opened in Washington on July 12, 1944. H. D. White & Co., of St. Joseph, Michigan submitted the low bid of \$46,068 for construction of the building, furnishing all specified equipment, and landscaping. The contract did not include the purchase of land, supervision of construction, or any contingencies. The lot was assessed at \$2,500, and it was agreed that this price would be paid to the Trustees of the Elizabeth City Graded Schools (the owners of the property) if the Health Center were to be built.

On August 12 the Federal Works Agency increased the allocation for the Health Center to \$59,432; awarding the contract to H. D. White & Co., and providing for purchase of the land, supervision and contingencies. On August 14, 1944, work was begun on the project. During construction it was possible to arrange for the addition of an exhaust fan in the X-ray and fluoroscope room, six extra bulletin boards, and a number of other minor improvements. Shortages of labor, difficulties in obtaining materials, and inclement weather delayed construction to some extent, but the building (with practically all equipment) was ready for final inspection on March 5, 1945.

The District Health Department, with the present personnel assigned to Elizabeth City numbering twelve, moved into the building

immediately after final inspection, starting the operation of clinics on the morning of March 7. An X-ray Clinic was held on March 19, 20 and 21 by the technician from the State Sanatorium, doing 400 X-rays; and the State Orthopedic Clinic held the largest clinic they had ever held in Elizabeth City in the Health Center on March 27. (The Orthopedic Clinic had formerly been held in the American Legion Hut.)

Dedication of the Health Center had been considered a major project since the time when planning for it was started. The invitation to address the program was first tendered to Dr. Mustard in August, 1944. It was felt that an outstanding leader in Community Public Health would best symbolize the dedication of this Health Center to the service of three counties which are predominantly rural. Dr. Mustard is now Professor of Public Health and director of the deLamar Institute of Public Health at Columbia University, but his book, *Rural Health Practice*, is based on his experience in community health work in Tennessee, and is the outstanding book on the subject. Dr. Mustard agreed to come from New York to address the Dedication Program on "Future Developments in Community Public Health." Dr. Milton J. Rosenau, dean of the School of Public Health at the University of North Carolina, and president-elect of the American Public Health Association accepted the invitation to come and introduce Dr. Mustard.

The Dedication Day started with rain in the morning, but a large Orthopedic Clinic was held at the Health Center. During the early afternoon, the weekly Tuesday well-baby clinics of the department were held. At four o'clock the weather cleared and the Health Center began its "open house" for citizens of the three counties of the district and for invited guests. All of the sixteen members of the Staff of the District Health Department were on hand to greet guests and conduct them through the building. Exhibits were arranged showing nutrition, tuberculosis control; planned parenthood, maternal and infant care, rat control, food handling, venereal

disease control, and heart disease. An X-ray was exhibited, showing moderately advanced bilateral tuberculosis, which had been taken as a result of a routine food handler fluoroscopy. Guests visited the Center in an almost constant stream until eight o'clock, and many enjoyed a fruit punch which was served by members of the Junior Woman's Club of Elizabeth City.

At 6:45, the honored guests met for dinner with the Kiwanis Club of Elizabeth City, as well as representatives of the Elizabeth City Lions and Rotary. Among those introduced at the dinner, further than the speakers for the Dedication Program, were: the Pasquotank County Commissioners, the Elizabeth City Board of Aldermen, the Pasquotank County Board of Health, and other Pasquotank County officials; the Perquimans and Camden County Boards of Health; practicing physicians and dentists from the counties of the district, and from adjoining counties; the health officers from the Currituck-Dare, Wayne, Pitt, Lenoir, Edgecombe-Halifax, and Portsmouth, Va. Health Departments; commanding officers and senior medical officers from each of the military establishments served by the district health department, the division manager of the Consolidated-Vultee Aircraft Plant; Mr. Alfred M. Lublin, of Norfolk, the architect of the Health Center; Mr. Frank Webster, executive secretary of the State Tuberculosis Association, and Drs. Richardson and Jacocks, and Messrs Jarrett, Ferguson and C. L. White of the State Board of Health. Dr. William P. Richardson, director for the eastern district of the State Board of Health, and a past-president of the Chapel Hill Kiwanis Club, addressed the gathering briefly on the need for community support and stimulation of the public health program. Dr. Richardson recognized that the completion and functioning of the new Health Center was a long step forward, as was the excellent representation at the dinner honoring the Health Center, but he bespoke the continued and increasing interest of all civic-minded organizations and citizens toward the end of complete public health protection of the

counties of the district.

At 7:30 the Elizabeth City High School Band, which has been nationally recognized for its excellence as a musical organization, and has received special citations from the Treasury Department and the Music Federation of America for its patriotic work during the War, paraded down Main Street, around the Health Center, and to the S. L. Sheep Auditorium.

The Dedication Program began shortly after eight o'clock with the singing of the National Anthem by the audience, accompanied by the Band. The Reverend B. C. Reavis, pastor of the Hertford Methodist Church, pronounced the invocation. Mayor Jerome B. Flora, of Elizabeth City presided over the gathering of approximately 250 citizens and guests.

Mr. Walter W. Cohoon, Pasquotank County Solicitor, spoke on behalf of the Municipal Government of Elizabeth City and the Commissioners of Pasquotank County. Recognizing that the city and county had acquired a beautiful and functional building which was the very last word in physical equipment for the public health protection of the community, Mr. Cohoon pointed out that this building alone, would not accomplish the desired end. "Just as it takes a heap of living to make a house a home, so it will take a heap of using to make the Health Center the true source of public health protection which it can be for the citizens of these counties."

Dr. John H. Bonner, president of the Medical Staff of the Albemarle Hospital, brought greetings from the practicing physicians of the district and recognized the assistance which a progressive public health program gives to all practicing physicians in their high calling of improving the health of all citizens.

Dr. W. K. Sharp, Jr., director of U. S. Public Health Service, District Number Two, recalled that he had first visited Elizabeth City in June of 1942, in company with Drs. Reynolds, Fox and Hackett, to assist in the organization of a full-time Health Department. He congratulated the community and the counties of the District on their progress in

public health, in the period of less than three years, as exemplified by the Health Center being dedicated.

The Elizabeth City High School Band rendered two short musical selections, following which Mayor Flora read the following telegram from Dr. Milton Rosenau, dean of the School of Public Health at the University of North Carolina, and president-elect of the American Public Health Association: "IT IS WITH DEEP REGRET THAT CIRCUMSTANCES HAVE SO BEFALLEN THAT I CANNOT BE WITH YOU TO HELP DEDICATE YOUR TEMPLE OF HEALTH. YOU ARE NOT SIMPLY GLORIFYING A STRUCTURE OF BRICK AND MORTAR BUT CONSECRATING AN IDEAL. YOUR HEALTH CENTER IS A SYMBOL OF ONE OF THE NOBLE ASPIRATIONS OF MAN TO MAKE LIFE SURER, SAFER, LONGER. IT IS A SYMBOL OF THE DETERMINATION OF THE COMMUNITY TO PROTECT ITS CITIZENS AGAINST INFECTION. IT IS A GOOD SIGN OF A BETTER CIVILIZATION THAT TAKES HEED OF ITS MOST PRECIOUS RESOURCES, NAMELY, HUMAN LIFE AND HEALTH. IT IS A SIGN OF SPIRITUAL VALUES OF A HIGH AND NOBLE FORM OF SERVICE. PLEASE REMEMBER ME KINDLY TO DOCTOR REYNOLDS AND OUR OTHER FRIENDS WHO SERVE IN THE ARMY OF GOOD HEALTH."

Dr. Carl V. Reynolds, State Health Officer, made the suggestion that the Health Center in Elizabeth City be dedicated to the memory of Franklin Delano Roosevelt whose interest in all types of social improvement had been largely responsible for the great expansion of public health work during the past ten years. In introducing Dr. Harry S. Mustard, Dr. Reynolds referred to his South Carolina origin, his work in Tennessee as local health officer and assistant State health officer, as well as to his teaching at Johns Hopkins University and now at Columbia.

Dr. Mustard briefly reviewed some of the early developments in Community Public Health, pointing out that it was epidemics.

and the fear of epidemics, which had resulted in the formation of the first City Boards of Health. Dr. Mustard pointed out that Guilford County, North Carolina was one of the three counties in the United States which started full-time, county-wide public health protection in 1911, but that each of these counties had one or more large cities within the county. Roberson County, North Carolina, in 1912, established the first truly rural full-time health service on a county-wide basis, as there was not then an incorporated city or town with a population of over 2,500 within the county.

Going into his topic of "Future Developments in Community Public Health," Dr. Mustard chose to mention only a few of the broad fields which might be fully discussed. Calling attention to the tremendous problem of Mental Hygiene, he spoke of the great number of hospital beds now occupied by mentally ill patients, and stated that if the parents of today could be ably directed in sound lines of habit-training for their children, it might be possible to reduce some of this great tax-supported waste of human life. He wondered how many of those present might have adopted the habit of taking a daily vitamin pill, simply because they had heard commercial advertising about it; and how many of these would pass along some equally unnecessary habit to their children. He wondered how many mothers pass along their fear of thunderstorms to their children.

Speaking of Tuberculosis, Dr. Mustard said that all that is needed in the way of scientific development is now available in the X-ray and modern surgery and rest treatment, for the eradication of this disease. He felt that adequate, widespread development and use of these facilities must be one of the first tasks in future community public health.

Referring to the alarming rejections of men of military age during the present War, Dr. Mustard said that the school physicians who had been examining school children since World War I could well have predicted these rejections. He said that community public health must find a practical way to accomplish the corrections indicated by physical exam-

inations of school children.

In conclusion, Dr. Mustard pointed out that public health workers cannot hope to accomplish their objectives alone. Their progress is dependent on comparable progress in the fields of education, government, and the social and economic sciences.

Miss Jennie Lou Newbold, soloist with the High School Band, then led the audience in singing America. The Reverend Allen P. Brantley, pastor of the First Methodist Church of Elizabeth City, pronounced the Benediction.

At the "open house" at the Health Center, following the Dedication Program, many of the community officials joined with the invited guests and speakers in inspecting the building. The members of the District Health Department Staff again showed the visitors through the building. Nearly 300 visitors were counted at the "open house" before and after the Dedication Program.

The Staff of the Pasquotank-Perquimans-Camden District Health Department now includes sixteen members. Dr. Daniel C. Hackett, Surgeon (R) U. S. P. H. S., is district health officer. Dr. Hackett worked with the War Activities Health District in Raleigh before coming to Elizabeth City. Miss Frances Stanton is senior public health nurse in Pasquotank County, coming to the department from the School Health Coordinating Service of the State Board of Health. Miss Audrey Umphlett is senior public health nurse in Perquimans County, having worked previously with the Northampton County Health Department. Mrs. Pattie Sawyer Davis is junior public health nurse for Camden County, she had field training in the Wake County Health Department. Miss Fisher Millard is junior public health nurse in Pasquotank County where she came directly from the School of Public Health at Chapel Hill. Mrs. Chloma Harshaw is also a junior public health nurse in Pasquotank County, having had field training with the Durham Health Department. Mrs. Evelyn Johnson is clinic nurse for the District. Mr. G. S. O'Dell is senior sanitarian for the District, having worked previously in Chatham and Lenoir Counties. Mrs. Elsie Green Wynn

is junior sanitarian for the District. Miss Sarah Yarborough is junior educator for Pasquotank and Perquimans Counties, having come to the department from the School of Public Health at Chapel Hill. Mr. W. C. Morrisette is follow-up worker for the District. Miss Katherine Miller is typist-clerk in the Elizabeth City Health Center, Miss Zenovah Chappell is typist-clerk in Hertford, Miss Annie Mae Egan is general secretary in Camden, and Mrs. Maxine Hart is clinic clerk in Elizabeth City. Viola Brown is clinic aide in Elizabeth City.

The schedule of clinical services now available to residents of the District includes: on Mondays, (1) Service Well-baby Clinic (by appointment) at the Health Center in the afternoon and (2) Venereal Disease Treatment Clinic for War Workers at the Health Center in the evening; on Tuesdays, (3) Foodhandler Clinic in Hertford on the first three Tuesday mornings, (4) The Albemarle Orthopedic Clinic on the last Tuesday morning of each month at the Health Center, (5) White civilian Well-babies from 1:30 to 2:30 and (6) Colored Well-babies from 3:00 to 5:00 at the Health Center; on Wednesdays, (7)

Colored Foodhandlers from 9:00 to 10:00 and (8) White Foodhandlers from 10:00 to 11:00, both in the Health Center, from 1:00 to 3:00 on the first three Wednesdays are (9) Colored Prenatal Clinics and the fourth Wednesday has the (10) Colored Planned Parenthood Clinic, all at the Health Center, (11) Camden Venereal Disease Treatment Clinic is from 4:30 to 5:30, and (12) South Mills Venereal Disease Treatment Clinic is held in the High School from 6:00 to 6:30; Thursday mornings, (13) Fluoroscopic and Spinal examinations are done at the Health Center, and Thursday afternoons from 2:30 to 6:30 (14) the Venereal Disease Clinic is held in Hertford; Friday mornings have (15) Venereal Disease Clinic at the Health Center, the first and third Friday afternoons have (16) Colored Prenatal Clinics, and the second Friday afternoon (17) Colored Planned Parenthood in Hertford, the (18) Service Well-baby Clinic (by appointment) is held at the Health Center Friday afternoons; each Saturday morning has immunization clinics at (19) the Health Center, (20) Hertford and (21) Camden; the (22) Hertford Well-baby Clinic is on the last Saturday morning of each month.

"Rabies in North Carolina"

By

J. W. KELLOGG

State Laboratory of Hygiene, Raleigh, N. C.

RABIES is primarily a disease of the lower animals, especially of the carnivora, and particularly the dog. Other animals wild and domestic are susceptible, but the dog is the chief factor in the spread of the disease. Man is comparatively less susceptible to this disease. The disease is widespread throughout the world, except in a few countries where quarantine measures have been effective in stamping it out, and there seems to be no seasonal prevalence in sections where it is endemic. As shown by the experience of England and Canada, it can be eliminated by proper control measures.

Rabies is caused by a filterable virus, which affects the nerve tissues, being found in the brain and in the nerve trunks. It is found in the saliva of infected animals, and it is mainly through this medium that infection follows. The virus is easily killed by exposure to air and direct sunlight. Drying renders it harmless in a short time. The usual mode of infection in man is through the bite of a rabid animal. The possibility of infection through indirect means or by mere contact with the animal has been over-emphasized. This is also true in regard to the use of milk from animals which later prove to be rabid.

RABIES IN NORTH CAROLINA POSITIVES BY MONTHS (All Animals)

Table "1"

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1908							1	3	6	6	2	3
1909	5	2	6	9	8	5	3	3	7	7	12	16
1910	6	3	14	7	9	7	3	7	4	7	6	5
1911	13	10	9	10	7	4	7	2	3	12	6	7
1912	13	11	20	18	14	14	11	11	6	13	5	14
1913	18	15	13	17	17	9	11	15	11	20	11	22
1914	21	16	28	14	15	10	10	9	7	13	13	12
1915	8	16	24	14	9	9	12	9	11	9	7	7
1916	15	8	11	13	15	7	16	6	16	10	12	17
1917	17	18	28	29	28	20	15	18	22	42	35	24
1918	25	27	37	19	21	17	17	13	18	10	14	17
1919	26	25	21	37	22	14	16	12	5	19	12	18
1920	13	15	21	16	24	19	21	16	9	19	13	20
1921	29	27	32	36	31	27	19	20	17	14	35	34
1922	38	35	40	37	37	22	23	23	28	24	45	28
1923	46	41	61	58	59	39	40	44	64	42	39	56
1924	42	57	68	48	63	39	47	44	53	54	59	61
1925	57	64	79	102	74	51	56	51	58	47	45	43
1926	88	80	90	66	60	57	53	31	51	34	46	48
1927	56	65	63	58	64	52	40	57	27	28	25	49
1928	26	46	47	47	41	37	37	24	34	25	28	30
1929	29	35	47	51	23	28	27	26	27	29	24	15
1930	25	32	40	39	29	23	32	26	25	17	11	14
1931	17	25	32	27	36	22	10	11	22	12	16	22
1932	16	28	20	40	36	34	27	27	24	18	29	38
1933	29	50	50	43	44	29	38	44	28	33	47	56
1934	43	45	74	72	85	68	56	76	67	72	61	96
1935	107	108	148	107	108	81	87	69	61	41	44	46
1936	53	52	57	58	45	41	50	41	30	24	20	30
1937	36	26	33	33	41	31	15	28	28	29	23	40
1938	22	38	31	21	26	25	30	21	19	13	23	22
1939	21	22	33	32	31	18	12	25	18	16	17	18
1940	15	22	33	34	39	19	34	22	23	23	30	41
1941	30	33	42	45	45	28	32	37	25	18	13	47
1942	21	23	25	27	23	15	8	7	7	13	12	13
1943	19	19	16	26	21	7	15	13	15	22	27	24
1944	18	32	40	27	30	32	23	19	15	23	7	17
Average	30	32	40	37	36	27	26	25	25	24	24	29

RABIES IN NORTH CAROLINA

Table "2"

Year	Total Exams.	Unsat.	Pos.	Dogs	Cats	Mules &		Hogs	Misc.
1908	33	(4)	21	20	1				
1909	107	(7)	83	73	6	3	1		
1910	165	(15)	81	74	5	1	1		
1911	142	(3)	88	80	7		1		
1912	277	(15)	150	136	11	2		1	
1913	323	(29)	179	154	17	6		1	1 man
1914	364	(29)	169	155	8	3		1	1 sheep 1 goat

1915	293	(20)	134	119	10	3		2	
1916	332	(19)	145	134	6	3	1	1	
1917	559	(47)	295	265	22	6		1	1 fox
1918	450	(46)	234	213	12	6	1	2	
1919	425	(39)	226	209	12	4			1 goat
1920	407	(43)	206	193	9	3			1 man
1921	551	(62)	323	294	22	2	1	1	1 goat 1 man 1 fox
1922	926	(104)	381	363	13	3		2	
1923	1148	(84)	591	534	39	12	2	3	1 man
1924	1305	(84)	635	593	29	7	1	2	1 sheep 2 goats
1925	1711	(111)	726	652	46	26	1		1 goat
1926	1566	(97)	705	641	52	5	2	3	1 goat 1 fox
1927	1373	(96)	585	514	50	9	3	7	1 sheep 1 squirrel
1928	1209	(71)	422	373	30	7	5	4	1 sheep 1 goat 1 man
1929	963	(51)	361	327	21	7		3	2 goats 1 man
1930	870	(50)	313	286	21	6			1 man
1931	889	(56)	252	216	21	11	1	2	1 sheep
1932	977	(44)	337	287	33	11	1	2	1 sheep 1 goat 1 man
1933	1215	(59)	491	431	32	19	3	3	1 goat 1 rabbit 1 man
1934	1819	(114)	815	740	51	20	1	3	
1935	2088	(116)	1007	899	59	41	4	1	3 goats
1936	1347	(77)	501	441	32	21	3	1	1 man
1937	1151	(74)	363	328	20	8	2	4	1 fox
1938	996	(75)	291	253	16	16	3		3 fox
1939	936	(81)	263	235	8	9			1 goat 10 fox
1940	1132	(35)	389	339	20	8	3	1	1 man 17 fox
1941	1230	(53)	436	392	12	15			1 goat 1 squirrel 1 man 14 fox
1942	867	(36)	228	205	13	6	1	1	1 man 2 fox
1943	885	(32)	252	230	2	7		2	1 goat 11 fox
1944	923	(34)	292	259	11	9			13 fox
Total	31954	(1446)	12968	11655	779	325	42	56	

The virus has been found in milk of infected animals, but we have no proof that ingested milk can cause the disease. In general, we may say that only those who have been bit by a rabid animal or those who have had the misfortune to get saliva from such an animal into a fresh cut or scratch should consider the advisability of taking the anti-rabic treatment.

The incubation period varies widely, being as short as five days in animals which are inoculated experimentally to as long as twelve months. The average in dogs is from two weeks to three months. In man the period is relatively longer, which makes it possible to employ the Pasteur treatment and thus prevent the development of the disease.

Diagnosis of the disease in dogs and other animals is accomplished by (1.) the clinical symptoms of the animal, (2.) microscopic examination of smears of the brain tissue and (3.) animal inoculation tests. Either one or all methods have their place and often supplement each other.

Rabies has been prevalent in North Carolina for years. Examinations were first made in this laboratory in 1908. Table "1" shows the number of positive examinations each month for the years 1908-1944.

A study of these tables shows many interesting phenomena. Rabies seems to run in cycles of from eight to ten years. Highs were registered in 1917, 1925 and 1934-35, with a slight increase in 1940-41, since which time there has been a low incidence, with an average of less than 250 rabid dogs in the State each year. Over the whole period, slightly more than 40% of all heads examined have proven positive. During epidemic years the percentage increases, and decreases at other times. Broadly, the number of treatments distributed coincides with the number of examinations, rather than the number positive. It is apparent that there is little evidence of seasonal prevalence of Rabies in North Carolina. The supposition that dogs usually go mad during "dog days" is erroneous. In fact, the months of July to November show the lowest average number of positive examinations. But we must take into consideration

that during the hot summer months we receive many heads which are reported as unsatisfactory mainly because they are badly decomposed when they are received at the laboratory. This fact would account for the low percentage of positives during this season of the year. In this connection, we must say that whenever a satisfactory examination can not be made, we must rely on the clinical symptoms shown by the animal to determine whether those exposed should take the anti-rabic treatment.

The number of dogs examined and found rabid outweighs all other animals, being 11,655 with 779 cats, 325 cattle, 42 horses and mules, 56 swine, and 24 goats and sheep. The number of cattle and other livestock examined indicates the great financial loss caused by the disease either directly or indirectly. We are unable to estimate the annual loss, but it must be considerable. A small epizootic among fox in the southern part of the State during the past six years has caused much anxiety. Children have been attacked by mad fox on their way to and from school; much live-stock has been sacrificed and people generally have been kept in fear of these animals which lose their inherent fear of man while suffering from the disease, and attack without warning.

During the early years of the laboratory, we were enabled to treat the patients through the liberality of the United States Public Health Service, which furnished the treatments on condition that they be administered here. This made it necessary for all those bitten to come to Raleigh and remain for three weeks for the completion of the treatment. Before that arrangement was made with the Public Health Service, it was necessary for the North Carolina patients to go to Baltimore, Maryland, or to other northern cities where treatments were available, and the cost was almost prohibitive. We charged \$50.00 to those able to pay, but no one was refused treatment because of inability to pay. Beginning in 1919 we began to make and distribute the antirabic treatments, and at present furnish the complete treatment for \$5.00. In 1940 we

began the distribution of the Semple type vaccine. During the past few years, several commercial houses have been selling antirabic treatments for humans, and this has cut down on the number furnished by our laboratory. Even so, the number of people in North Carolina who have taken our treatments average more than 600 each year. This is reason enough for the extermination of the disease, together with the fact that we have an average of one human case of rabies in the State each year.

There seems to be little hope that rabies will be eliminated in North Carolina, although it might be with proper control measures. In order of their importance, they are: The destruction of the stray or ownerless dog; a six months quarantine of imported dogs; confinement of all dogs on the premises of the owner, except while on leash; immunization of all dogs as provided by statute at intervals of no more than twelve months. This brings up the question of the value of canine vaccines. The protection gained is never absolute, but with the type of vaccines now being sold by reputable concerns, we feel sure that their use has operated to lower the incidence of rabies in dogs of this State. It appears that it is the content of brain tissue present in the vaccine rather than the inactivating agent used, that determines the effectiveness or antigenicity of a vaccine. From the standpoint of the individual owner, their use is desirable. The practice of antirabic vaccination of a dog which has been bit by a mad animal is a vicious disregard of the law, which requires any animal bit or supposed to have been bit by a rabid animal to be killed. Even if previously immunized, such a dog should be killed.

We will give a summary of our opinions in regard to the advisability of treatment in cases where one may be in doubt as to actual exposure. The causative virus is secreted by the salivary glands of rabid animals during the period of exhibition of the characteristic symptoms of the disease and for a few days prior to that time. This period is variously stated to be from three to seven days. For this reason, it is advisable for those bitten or

directly exposed to the saliva of a rabid animal to be protected by the antirabic treatment.

While prevalent in dogs and other animals, the disease in man is rare. Definite exposure, either by a bite or by the saliva through a fresh cut or abrasion, is sufficient reason for giving the preventive treatment. The possibility of infection through cuts or scratches more than twenty-four hours old is quite remote. Feeding experiments have been negative, and there seems to be no object in giving treatment to those who have used the milk of animals that later proved to be rabid, although there might be a possibility of infection through broken skin or mucous membranes. Treatment paralysis, though rare, occurs more frequently than does rabies in persons not actually exposed. Therefore, treatment is not advised except in cases of direct exposure during the infectious period of the disease.

When a person is bitten by an animal which is suspected of having rabies we advise that the animal be kept alive, and that it be securely confined and placed under observation for a period of seven to ten days. Under no circumstances should an apparently normal animal be killed for the purpose of diagnosis. The quickest and most certain method of determining that the suspected animal did not have rabies or was non-infectious at the time the bite was inflicted is that it lives and remains normal for a period of ten to fourteen days. If the animal is still normal at the end of seven days, the person bitten is in no danger of rabies and treatment will not be necessary. If the animal develops symptoms of the disease or if it should die for any cause, the head should be sent to the laboratory for examination.

The administration of antirabic treatment to the person bitten need not be started until after the diagnosis of the animal has been made, except in cases where the bites are about the head of the person. Where bites are on the extremities there is ample time to confer immunity and protect the patient after the diagnosis has been made on the suspected

animal. People bitten about the head or face by an animal suspected of having rabies should start their antirabic treatment at once, still keeping the dog under observation. If it is established that the animal does not have rabies, the treatment may be discontinued.

We are now distributing the Semple type of vaccine, which has had a thorough and extensive trial. The virus is killed by the addition of phenol. All doses are the same, so there is no danger of using the wrong vial. For slight exposures fourteen doses are

considered necessary. For more severe exposures and for all those about the head twenty-one doses are recommended.

In conclusion, we wish to stress the advisability of the annual inoculation of all dogs against rabies. Have this done by your local veterinarian, or consult your health officer for the dates of clinics to be held in your community. Vaccination of all dogs, coupled with the proper restraint of the dog should prove of value in the elimination of the disease.

Medical News

DR. Oren Moore, of Charlotte, was formally installed as President of the Medical Society of the State of North Carolina, at a meeting of the Executive Committee, held in Raleigh in lieu of the 1945 meeting of the House of Delegates, which was scheduled to be held in Pinchurst, April 30-May 2, but was canceled on account of ODT regulations.

Dr. Moore, chosen President-Elect, at Pinchurst last year, succeeds Dr. Paul F. Whitaker, of Kinston, who, when the 1945 meeting of the Medical Society was canceled, was requested to continue in office until the next full meeting.

On assuming office, Dr. Moore indicated that he would continue the policies followed by the preceding administration, indicating, however, that he would appoint two committees which he would ask the House of Delegates to make permanent. One of these would devote its time to a continuing study of all State institutions having to do with the health of the people, including those operated for the care of the mentally sick, while the other would work to have proper machinery set up to enable the State Board of Health to make a special study as to the causes of every death coming under the heading of infant and maternal mortality. Such a study would, he believes, result in remedial measures that would cut down such mortality, which he regards as being entirely too high.

In connection with his resignation, accom-

panied by the request that Dr. Moore be formally installed, Dr. Whitaker said:

"It is customary for the President to serve only one year, and if the ODT had allowed the meeting to be held this year, I would have gone out of office May 1, and the President-Elect, Dr. Oren Moore, would have assumed office then. The Executive Committee felt that the present officers should hold over until the annual meeting could be held, believing that a meeting would be allowed in the fall, anyway. This request was given consideration. It is now apparent that, in keeping with the spirit and regulations of the ODT, it will be at least a year from now before a meeting can be held. Due to the fact that circumstances during the past year have caused the duties of the office to be unusually heavy, good judgment dictates the decision that I should resign and turn over the duties of the office to Dr. Moore."

The Executive Committee meeting, held at the Hotel Sir Walter, was featured by Dr. Whitaker's annual report, also that of Dr. Roscoe D. McMillan, of Red Springs, Secretary and Treasurer of the State Medical Society, whose re-election each year, because of his efficient services, has been a matter of routine. Other officers change annually.

In view of the fact that today's meeting was in lieu of the 1945 meeting of the House of Delegates, various routine matters were discussed. A few invited guests were present.



"SALLIE"

This is the cut of Sallie which should have appeared on the front cover of our May issue. Through error a reduced size cut was used. Our printer, The Graphic Press, Inc., Raleigh, N. C., offered to have the above cut made at their own expense. It is reproduced here with our sincere apology to our readers and to Sallie.

Committee Personnel

Members of the Executive Committee called to Raleigh for the meeting, most of whom were present, include Dr. Whitaker and Dr. Moore; Dr. W. H. Smith, Goldsboro, First Vice-President; Dr. Zack D. Owens, Elizabeth City, Second Vice-President; Dr. Roscoe D. McMillan, Red Springs, Secretary-Treasurer, and the following Councilors: First District, Dr. J. Gaddy Matheson, Ahoskie; Second District, Dr. John Cotten Tayloe, Washington; Third District, Dr. Paul Crumpler, Clinton; Fourth District, Dr. Newsom P. Battle, Rocky Mount; Fifth District, Dr. F. L. Knight, Sanford; Sixth District, Dr. M. D. Hill, Raleigh; Seventh District, Dr. Joseph A. Elliott, Charlotte; Eighth District, Dr. Fred M. Patterson, Greensboro; Ninth District, Dr. I. E. Shafer, Salisbury, and Tenth District, Dr. C. C. Orr, Asheville.

Dr. Whitaker Reports

The report of Dr. Whitaker, the retiring President, covered activities for the thirteen months that have elapsed since the 1944 meeting of the North Carolina State Medical Society held at Pinchurst. He told of his visits to the various districts, and the assistance given him in the execution of his duties, by Dr. McMillan, the Secretary-Treasurer, and other officials of the Society. Besides his visits to numerous districts, Dr. Whitaker also attended a large number of County Medical Society meetings in various parts of the State, his report disclosed.

"The most important matter with which the present administration has had to deal has been the proposals on the extension of medical and hospital care submitted by former Governor Broughton during the administration of President J. W. Vernon, and finally submitted, in concrete form, by the Poe Commission. Organized medicine was liberally represented on the Poe Commission; and a large committee from the Medical Society, under the chairmanship of Dr. Hamilton McKay, actively collaborated with the physicians on the Commission in working out the final details of the report.

"It is difficult to estimate the time and effort expended by Dr. McKay and his committee, and the physician members of the Commission in attempting to meet the popular demands for more adequate and economical distribution of medical care, and, at the same time, protect the integrity and freedom of the medical profession.

"Some recommendations of the Hospital and Medical Care Commission were controversial," Dr. Whitaker went on. "In the democratic way, each County Medical Society was asked to pass upon the recommendations of the Commission, and it was repeatedly stressed that each local secretary secure and record the opinion of our absent colleagues serving with the armed forces.

Large Majority Approved

"A large majority of our County Societies approved, and, it is believed by this administration, wisely approved, the full recommendations of the Commission. By so doing, they demonstrated to the public their interest in the problem and their efforts toward a solution. At times, the opposing points of view were forcibly and heatedly expressed, but it is hoped and believed that, through all the fight, the respect and affection of both sides for each other has been maintained.

"A groundwork has been established," Dr. Whitaker asserted, asking: "Do you propose to stop here, or do you propose to go forward? Organized medicine would do well to give consideration to where it should go from here in supporting these proposals. You have three representatives on the new Commission. You should instruct them as to your views; and, once instructed, you should give them your unqualified and enthusiastic support."

One-fourth of all pedestrians killed in urban accidents in 1943 were crossing at an unsignalized intersection—but one-third were killed crossing between intersections, reports the National Safety Council.

FAMOUS LAST WORDS: "Well, if he won't dim his, I won't dim mine!"

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DOCUMENTS



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UNION COUNTY HEALTH CENTER

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 WILLIAM P. JACOBS, M.D., Director, School-Health Coordinating Service.
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 WILLIAM L. FLEMING, M.D., Director, Reynolds Research Laboratory, Chapel Hill.
 JOHN J. WRIGHT, M.D., Director, Field Epidemiological Study of Syphilis, Chapel Hill.

FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils
 Appendicitis
 Cancer
 Constipation
 Chickenpox
 Diabetes
 Diphtheria
 Don't Spit Placards
 Endemic Typhus
 Flies
 Fly Placards

German Measles
 Health Education
 Hookworm Disease
 Infantile Paralysis
 Influenza
 Malaria
 Measles
 Padiculosis
 Pellagra
 Residential Sewage
 Disposal Plants

Sanitary Privies
 Scabies
 Scarlet Fever
 Teeth
 Tuberculosis
 Typhoid Fever
 Venereal Diseases
 Vitamins
 Typhoid Placards
 Water Supplies
 Whooping Cough

SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.
 Prenatal Letters (series of nine
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 The Expectant Mother.
 Breast Feeding.
 Infant Care. The Prevention of
 Infantile Diarrhea.
 Table of Heights and Weights.

Baby's Daily Time Cards: Under 5 months;
 5 to 6 months; 7, 8, and 9 months; 10, 11,
 and 12 months; 1 year to 19 months; 19
 months to 2 years.
 Diet List: 9 to 12 months; 12 to 15 months;
 15 to 24 months; 2 to 3 years; 3 to 6
 years.
 Instruction for North Carolina Midwives.

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THE Health Bulletin

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CARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

Address of Governor R. Gregg Cherry

Dedication of Health Center at Monroe, Monday, May 14, 1945

EVERY American, regardless of creed, color, or economic status, is entitled not only to life, liberty, and the pursuit of happiness, but also to good health, in order that he may properly enjoy these blessings—not as a matter of charity, but as his or her inherent right.

Health is the basis of human happiness; the cornerstone upon which rests not only the welfare of the individual, but of the nation, as well. I emphasized this principal in my platform when seeking the nomination for the office of Governor; also in my inaugural address. In each case, I urged the adoption of a program that would provide for the medical examination of and adequate care for all children in the State whose parents are not able to provide these. I pointed out then, and I reassert now, that such a program is in no sense intended to be a plan of socialized medicine; but it is my earnest conviction that where parents are unable to finance the cost of remedying physical defects among their children, the State should assume that cost. This is neither "federalized," "socialized," nor "State" medicine, but the fulfillment of a solemn human obligation.

Too Many Defectives

Altogether too many of our young men have been turned down by draft boards because of physical defects which could have been remedied by proper medical care in childhood. Until this whole subject finally is reviewed, the question of our standing as to the percentage of rejectees will remain a debatable subject; but whatever our rank in this matter, we should determine to give our

children the best in the way of health opportunities, in order that they may be fitted for the tasks that lie ahead. We know that upon their shoulders will fall responsibilities unparalleled, perhaps, in human history, as they, taking our places—picking up where we left off—strive to build a world in which the barbarities of the immediate past can never be repeated.

If we are to get the most out of the millions we are investing in public education, we must be certain that our children are healthy. Education cannot reach its full fruition in the mind that is housed in a diseased body, or one that is impaired by defects. If these defects can be remedied, but are not, because of our indifference, then upon our shoulders the blame must rest.

It is as much the right of every man, woman, and child in North Carolina to enjoy the benefits of public health as it is to enjoy the benefits of public safety, public roads, public schools and the many other things for which we pay, in taxes and take as a matter of course.

We labor under no illusions of having received charity when we send our children to the public schools, when we ride along our highways, when we look about us and see policemen ready to protect us against the criminal element. Such services belong to us, as citizens.

Mass Protection

Public health is simply mass protection. It in no way jeopardizes the livelihood of the private practitioner, who has invested his

money in a medical education and has the right to expect a reasonable return therefor. In fact, it takes many burdens from his shoulders, enabling him to give his time to those who are able to, and who should pay him for his professional services. The average doctor cannot be expected to be responsible for mass protection against communicable diseases for which preventives have been discovered. That is a matter for the State, just as the State provides the legal machinery for guaranteeing all its citizens justice in the courts. But because such machinery has been provided for mass protection against crime and injustice, this does not mean that the private practitioner of law must go out of business. Not at all. His services are made to fit into those provided by the State.

The same is true of medical doctors, as to their relation to public health. In fact, in the early years of its existence, the North Carolina State Board of Health consisted of the entire State Medical Society, which acted through a committee, and today four of the nine members comprising the Board are elected by and from the membership of the State Medical Society.

As most of us know, there are two branches of medicine—curative and preventive. These are so interdependent that the success or failure of one means the success or failure of the other. The line of demarcation is often very faint, perhaps, in the eyes of the layman. It is, therefore, highly advisable that each person who is able to do so go to his private physician for periodic check-ups, in order to prevent the preventable while there is yet time. The Psalmist declared: "I am fearfully and wonderfully made; marvelous are Thy works." The human body is a delicate piece of machinery, fashioned by the Great Architect of the Universe; and to the declaration of the Psalmist, Saint Paul added: "Your body is the temple of the Holy Ghost." This imposes upon man an added responsibility. He should protect his body against disease, not only because of its value as the instrument with which he must work and receive wages to care for himself and those dependent upon him for support,

but also as the dwelling place of the highest ideals of life.

Dignity of the Individual

We hear much these days about the dignity of the individual, and to preserve that dignity millions, during the past five and a half years, have suffered and died. Unless we make their great loss our priceless gain, their blood will have been spilt in vain, and we can never hope for that final brotherhood of man toward which we look forward and for which we so earnestly pray. We have won great military victories; we have overcome enemies which appeared to be all but invulnerable, as they went up and down the world spreading death and destruction among innocent men, women and children. But unless we translate these military victories into spiritual gains, we may well ask ourselves that searching question: "For what shall it profit a man if he gain the whole world and lose his own soul?"

A Great Humanitarian

Just over a month ago this nation and the world suffered a staggering loss in the death of our late President, Franklin Delano Roosevelt, whose life was dedicated to the highest ideals of mankind, but more especially to helping the weak and the underprivileged. He was truly a friend of man, and he left us an incentive unparalleled, perhaps, in history. Though himself afflicted in body, his great mind towered into the blue skies of clear and sympathetic thinking, and "seeing the multitudes, he had compassion upon them."

Through the agencies at our disposal, it is possible for us to achieve much toward the uplift of humanity—and I know of no more important medium through which this can be accomplished than through the organization we know as Public Health, to which this building stands as a magnificent tribute—a tribute to our efforts in behalf of mass protection against preventable diseases.

One of the Best

We have in North Carolina a State Health Department which is regarded as one among the very best in the United States. This is borne out by the fact that in time of peace,

when international travel is permitted, the North Carolina State Board of Health is visited by public health workers from all parts of the world, who come to study the methods we employ. Preceding the opening of hostilities that grew into World War II we had visitors from every continent—from Turkey, Hungary, Great Britain, India, the Philippines, Hawaii, the West Indies and many other places. During the past year, public health workers have come from the Argentine, Brazil, Ecuador, Chile, Mexico, Costa Rica, the Republic of Panama, and other South American and Central American countries. They came, for the most part, under the sponsorship of the Rockefeller Foundation, in whose eyes the North Carolina State Board of Health occupies an important place, not for any sentimental reason, to be sure, but because of its achievements.

Public Health, as I have said, is dedicated to the prevention of disease; and, I might add, to the alleviation of suffering among the underprivileged.

Our Recent Health Gains

Now, let us consider, briefly, some of the gains we have made in North Carolina that might be attributed to preventive medicine. I might stand here and talk for hours in general terms—I might make all sorts of claims, but unless these claims could be substantiated, there would be little profit or encouragement in what I might have to say.

During the year 1917, when we became an active belligerent in World War I, more than fourteen out of every one thousand persons in North Carolina died, many from diseases that could have been prevented. During the following year, that is, 1918, when we were visited by the great influenza epidemic, nearly eighteen out of every one thousand died. No one who survived that dreadful year will ever forget it. The plague struck in our homes, in our armed camps, here and overseas—everywhere people were dying by the thousands. On the platform of every railroad station coffin boxes containing the remains of influenza victims were piled high on trucks, awaiting shipment.

Death Rate Reductions

As compared with our general death rate of more than fourteen per thousand in 1917 and nearly eighteen in 1918, North Carolina's death rate last year was only 7.9 per one thousand population, which was the lowest in the history of this State. We should do everything within our power to preserve that record—yes, to lower it.

In 1917, North Carolina's infant mortality was nearly 100 out of every thousand babies born. Last year it was just 44.7, the lowest in our history. Even that rate is entirely too high, but it shows that we have made gains. We have a long way to go, and it is going to take much hard work and the spreading of much information among prospective mothers—but we can do it, if we set our hands and our hearts to the task.

Another encouraging achievement in North Carolina last year was the reduction of the maternal death rate to 2.9 for each thousand live births, which was also the lowest in the State's history. In 1917 7.8 mothers died as the result of every one thousand live births, as compared with less than three such deaths in 1944.

There are in North Carolina approximately 300 public health maternity and infant clinics, to which the indigent of all races go for examination and treatment, if they need it. Expectant mothers are supplied with the very best information that will help them over the period through which they are passing. These mothers and their babies are given the same treatment they would receive if they were able to pay for it.

For Service Men's Families

In addition to all this, the North Carolina State Board of Health is the agency through which the federal government administers funds for carrying on the Emergency Maternity and Infant Care Program in this State. This program provides for free maternity care for all women whose husbands are in the 4th, 5th, 6th, and 7th pay grades of the armed forces, and for free medical and hospital care for infants of men in these classes during their first year of life. At the present

time, between 1,000 and 1,200 wives of service men are being delivered every month that passes. Through March of this fiscal year the United States Children's Bureau channeled through the North Carolina State Board of Health for the prosecution of this program the sum of \$1,048,178—that is, from July 1, 1944 through March 31, 1945, making a grand total of \$1,855,703 since the program got well underway about two years ago. Of this amount, the sum of \$1,095,625 has actually been spent in North Carolina, under Public Health supervision, for pre-natal, obstetrical, and post partum care, and hospitalization for wives and babies of service men. Under this program, the families are allowed absolute freedom of choice in the matter of selecting their doctors and hospitals, who are paid out of the EMIC fund. However, there must be selected a cooperating hospital, as these were chosen because they measured up to the standard requirements and were willing to have a part in this work.

There has been a perceptible decline in both maternity and infant mortality since the inauguration of this program, which insures standard medical care at no cost to the beneficiaries.

Controlling the Controllable

We have, through immunization and sanitation, all but stamped out typhoid fever in North Carolina. Throughout last year, there were only twelve deaths from typhoid fever in our State, as compared with nineteen in 1943, and—believe it or not—839 in 1914 and 129 as late as 1933.

We have gone for years without a single death from smallpox, but this does not mean we should relax our efforts, for it is through constant vigilance in our vaccination, immunization, and sanitation efforts that communicable diseases are eliminated or controlled. This was demonstrated in Canada several years ago, in a community that had neglected vaccination. A Pullman porter developed the disease en route to one of the Canadian cities, where he made contacts on his way to a hospital. Shortly thereafter, a very serious epidemic broke out that resulted in numerous

deaths. We must let that never happen in North Carolina.

North Carolina's death rate from tuberculosis in all forms dropped last year to a new low of 36.5 per one hundred thousand population, compared with 39.1 in 1943. Twenty years ago that same rate was approximately 100, while thirty years ago it was approximately 140. But we can never be safe from the spread of tuberculosis until all open cases are detected and segregated for treatment. We must separate the well from the sick if this dreaded disease is to be controlled.

War On Tuberculosis

The United States Government recently made available the sum of \$10,000,000 to aid the states in a great case-finding program, and the North Carolina Legislature, at its 1945 session, appropriated approximately \$40,000 with which to match federal funds for the next biennium. In the meantime, however, approximately \$19,000 has been made available by the federal government for work in North Carolina until July 1, this year, when State-appropriated funds will become available.

The continued downward trend in North Carolina's pneumonia death rate, as reflected in the 1944 vital statistics report, is also highly gratifying. During last year there were in North Carolina 1,555 deaths from pneumonia, with a death rate of 41.5 per one hundred thousand population, as compared with 1,692 deaths and a death rate of 45.7 per hundred thousand during the preceding year of 1943. Thanks to the sulfa drugs and penicillin!

During the entire year of 1944, there were only 37 deaths from diphtheria in North Carolina, compared with 56 in 1943—but from now on there should be no such deaths, as diphtheria is a preventable disease and the law provides for the immunization of every North Carolina baby before it reaches the age of one year. Twenty years ago, the death rate from diphtheria in this State was nearly 12 for every one hundred thousand population. Now, it is just one.

Our Cancer Status

Recently, we have heard much about efforts designed to conquer cancer, which continues to make terrific inroads into our population. It is hoped that all such efforts will continue and that this dread disease may some day be brought under control; but even now cancer deaths can be greatly reduced by early diagnosis, surgery, radium and X-ray. North Carolina's cancer death rate last year was 61.4 per one hundred thousand inhabitants—too high, to be sure, and growing all the time; but, at that, the North Carolina cancer death rate is only about one-half of the national rate, which is around 122 per one hundred thousand population. Moreover, North Carolina has the lowest cancer death rate of any state in the South Atlantic group. While this is gratifying, it should cause no relaxation in our efforts to bring the disease under control, as our own cancer death rate has risen about ten points in the past ten years. Cancer is now fourth among the leading causes of death in this State, having passed tuberculosis, which has dropped to eighth place. As late as 1916, tuberculosis stood at the top of the list.

No state in the Union has made greater strides in the war against venereal diseases than North Carolina. For the control and final eradication of this form of pestilence, North Carolina has within its borders one tenth of all the public health clinics in the United States. In combating venereal diseases and bringing them under control, our public health officials have kept abreast of the times. With the aid of federal, philanthropic and State funds, the results have been definite. At the present rate of the decline of syphilis deaths—from 421 in 1940 to 241 in 1944—the disease undoubtedly, in the opinion of public health officials, will appear as a minor cause of death ten years from now. That would be the earliest date that death reports would reflect the true situation in regard to today's syphilis morbidity, which shows a reduction in late syphilis in the past four years or more than 50 per cent.

I have given you some of the outstanding reductions in mortality rates in North Caro-

lina in recent years, most of them in connection with preventable and controllable diseases. As I have previously told you, public health is chiefly concerned with preventive medicine. It has not, does not and will not infringe upon the rights of the private practitioner of medicine. It will cooperate, but it will not seek to dictate. On the other hand, the private practitioner should give and has given public health a cooperation that is commendable, and which emphasizes the interdependence of the two great branches of medicine.

The Health Center

This health center, which today we are dedicating in the progressive county of Union, stands as a tribute to preventive medicine, and its importance will be demonstrated to a greater degree with the passage of time.

This is one of seven such centers that have been erected in North Carolina defense areas with the aid of federal funds provided by the Lanham Act. Whether there are more such centers will depend upon the passage of what is known as Senate Bill 191, now pending in Congress, which would provide aid to states wishing to erect such centers, not only in defense areas, but anywhere they are needed and counties will match funds. Hence the passage of this bill is of extreme importance to the public health picture, as it would make available the sum of \$110,000,000 for hospitals and health centers throughout the United States.

The Lantham Act was passed as an emergency measure. Senate Bill 191 would provide a continuing fund for post-war construction of such centers as this and, under certain conditions, it would result in the erection of centers in many other counties where they are so sorely needed in the promotion of public health activities.

A public health worker recently made this suggestion, which I pass on to you as food for thought. "What," he asked, "could be a finer monument to men in the armed services from any county who have made and will make the supreme sacrifice, than a health center? Some communities are considering the erection of auditoriums, others playgrounds,

and still others, monuments, but what finer monument could be erected in any county than a health center, dedicated to the saving of human life and the preaching of the gospel of disease prevention?"

You have only to consider the quarters in which your county health department formerly was housed to appreciate this magnificent plant, which stands out as a beacon of progress. It is not only a tribute to the advance of public health, but a civic asset, as well.

Symbol of Human Dignity

The plant we now dedicate not only symbolizes the dignity and importance of health, but the dignity of the individual, who, to be at his best, must be healthy.

North Carolina has come a long way down the path of material progress during the past two or three decades. We have kept abreast of the times, and in many instances we have blazed new trails. We have not achieved per-

fection, and we never will, because perfection is something that, at best, can only be approximated, but never reached. Yet we have many reasons to rejoice in our achievements, especially those reached through our desire to serve humanity.

We Must Advance

Long ago, we realized we could not live in mud and ignorance, and we provided facilities for our emergence from both. We now know that we cannot make terms with any disease that can be prevented. We must, with the help of science, prevent the preventable. We intend to do just that. We have provided the means for universal education, and each of us looks forward to the day when not only more than 95 per cent of our people—as is now the case—enjoy the benefits of organized public health, but one hundred per cent. What has been done here will go a long way toward furnishing an incentive for that goal.

The Union County Health Department

By

CLEM HAM, M. D.

Health Officer, Monroe, N. C.

Organization of the Union County Board of Health
(Another Advance Step in Civilization)

Monroe, N. C., May 8, 1911

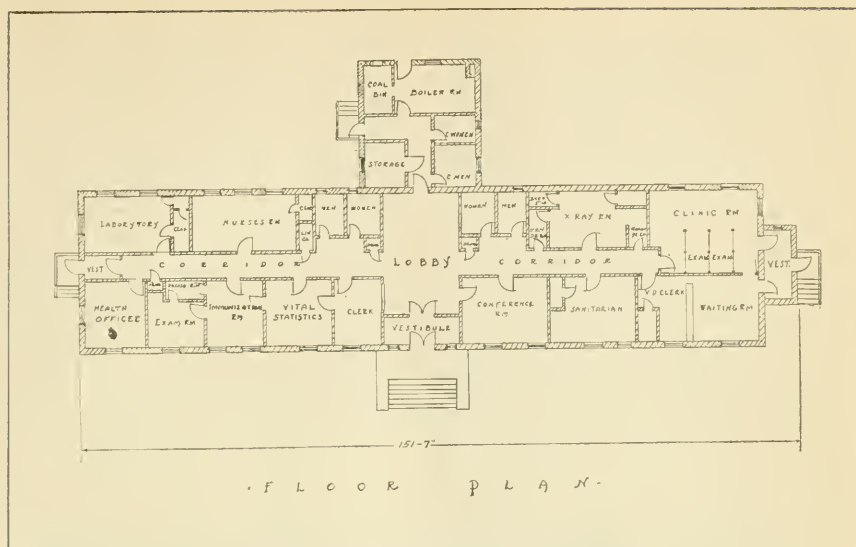
ACCORDING to an act creating a County Boards of Health passed in the General Assembly of North Carolina, 1911, the following persons constituting said board: Chairman of the Board of County Commissioners (T. J. Gordon), the Mayor of the County Seat Town (J. D. McCrae), and the County Superintendent of Public Instruction (R. N. Nisbet) met and organized, as follows: T. J. Gordon, Chairman, Board of County Commissioners, Chairman, R. N. Nisbet, County Superintendent of Public Instruction, Secretary. The appointment of two physicians as members of the Board of Health, being the main business of this meeting, outside of the mere matter of organizing, the board proceeded to this business, which resulted in the choice of Doc-

tors G. B. Nance and R. Armfield. There being no further business, the Board adjourned.

T. J. Gordon, Chairman

R. N. Nisbet, Secretary

The above is an exact copy of the minutes of the organization meeting held on May 8, 1911. A review of the minute docket shows that Dr. H. D. Stewart was elected as the first County Superintendent of Health on June 12, 1911 in which capacity he served until January 20, 1913. There is no record as to the salary paid Dr. Stewart prior to the meeting of the Board of Health on February 12, 1912, at which time the County Board of Health voted that he receive a salary of \$300 per year. On January 20, 1913 Dr. Samuel A. Stevens, a practicing physician of Monroe, was elected as County Superintend-



ent of Health to succeed Dr. Stewart. Dr. Stevens served until January 6, 1919, at which time Dr. G. B. Nance was again elected as County Superintendent of Health at a specified salary of \$350 per year. At this meeting of the Board of Health, it was specified by the said Board that the duties of the County Superintendent of Health shall include "attendance in sickness, the keeper of the County Home and his family, the inmates of the home, the prisoners of the jail, and the convicts on the chain gang, also all persons on the pauper list and some special cases which may be considered by the Board of Health as objects of charity." During the first several years after organization of the County Board of Health, the main duties performed were the election of two physicians to serve for a period of two years each and the election of a County Superintendent of Health every two years. One of the first official public health measures enacted by the County Board of Health was early in the year 1919, when the Board ordered all schools in Monroe to close on account of an epidemic of Spanish influenza, again in the spring of 1920, the same action was taken by the Board of Health for the same reason. In 1921 the minute docket

shows that the offices of County Quarantine Officer and County Physician were consolidated, and that the County Superintendent of Health served in both capacities at the salary of \$50.00, \$35.00 as County Quarantine Officer, and \$15.00 as County Physician. In the fall of 1921, a joint meeting of the County Board of Education and the County Board of Health, was held in the offices of the County Superintendent of Schools. The purpose of the meeting was to adopt a resolution governing the contagious diseases that were not quarantined by the Board of Health, viz, mumps and itch. The following resolution was passed:

"We, the County Board of Education for Union County, N. C. and County Board of Health, for Union County, N. C., in joint session do make the following regulations in regard to quarantining certain diseases, viz, that no child or pupil shall be allowed to attend the schools of Union County that is known to have mumps. That the quarantine shall continue for seven days from the beginning of the disease. That no pupil shall attend school having the itch so affected." Dr. Samuel A. Stevens was succeeded as County Superintendent of Health in January, 1925, by Dr. G. M. Smith who served, according to the

records until 1929, at which time he was elected as a medical member of the Board of Health, succeeding Dr. R. L. Payne, since Dr. Payne was an applicant for the position as County Physician. From 1929 to 1934 the records are incomplete. However, it is known that during this period, Dr. R. L. Payne and Dr. John J. Goudelock each served as County Physician.

In October, 1937 the Board of Health, in session, voted to establish a full time health unit, consisting of a Health Officer, two nurses, sanitary inspector, and secretary. Union County was the 68th county in North Carolina to establish such a unit. The records show that the unit was established with the understanding that it be financed cooperatively by the North Carolina State Board of Health, the United States Public Health Service, and Union County. In June, 1938, Dr. R. J. Sykes, was elected as County Health Officer, but for some reason did not accept. In July of the same year, Dr. J. P. Mitchell was elected, since Dr. Sykes did not accept. Dr. Mitchell also declined. Dr. F. R. Adams was elected on July 14, 1938. Dr. Adams accepted the appointment and began his duties as Union County's first full-time health officer in August, 1938. He served until July, 1939, at which time he resigned. He was succeeded by Dr. Clem Ham, present health officer.

The Union County Health Department, after being organized as a full-time unit, was first housed in two rooms in the basement of the courthouse. After a short time, it was necessary, because of the increased activities of the department, to acquire larger office quarters. In the early part of 1940 the offices were moved from the courthouse into larger quarters on the second floor of the Latham Building where it remained until February, 1945, at which time the new and modern health center was occupied.

New Health Center

The Union County Health Center was constructed under the Federal Works Agency program in cooperation with the Board of Commissioners of Union County. The building was planned and designed by Basil G. F.

Laslett, Architect, of Fayetteville, North Carolina. The Architect worked in close conjunction with Dr. Clem Ham, Health Officer of Union County, Mr. J. Ray Shute, Chairman of the County Commissioners and the members of the Board of Commissioners in order to solve the problem of providing adequate quarters for a Health Center. J. S. Stearns of Monroe, North Carolina, was the General Contractor for the erection of the building. The building is located on Hayne Street, two blocks from the Courthouse. Due to the influx of population caused by the establishment and expansion of Camp Sutton, the needs for health department activities were greatly increased. The desirability of having this modern Health Center was evident to the authorities concerned.

The building is designed in a modern style with a minimum of critical materials being used. The footings are of concrete, walls of selected face brick, backed with cinder concrete blocks. The floors are of wood construction, finished with asphalt tile flooring throughout the building. The roof is of built-up composition type supported on wood construction. The windows and front and end entrance details are of wood. A circulating hot water system with a coal stoker was provided for heating the building. The plumbing layout is adequate for the building. The electric lighting layout is necessarily of the highest quality obtainable, with fluorescent fixtures being used throughout. Adequate ventilation has been provided for interior rooms with skylights placed over interior corridor.

The building is one-story, with a wing at the rear containing the boiler room and coal bin, a general storage room and colored men and women's toilets. The main portion of the building contains an entrance lobby with waiting space, a vestibule and an information window at the clerk's office; a clinic room with a waiting room examination rooms and clerk's office with drug closet, this suite of rooms has been provided with a separate entrance arranged for handling large groups of clinic patients in a convenient and practical manner. This clinic area is segregated from the remainder of the building. Office quarters are provided for

the Health Officer and Secretary, with an adjoining Immunization Room and Examination Room. A Dark Room is provided for fluoroscopic and X-Ray work with developing room and men and women's dressing rooms adjoining. Adequate quarters are provided for the sanitarians and nurses. A laboratory and office for vital statistics are provided and ample storage and utility closets provided throughout the building. Men and women's toilets for the public and for the office help are provided in this section.

The building is completely equipped with wood furniture. The laboratory, examination and treatment rooms are supplied with new equipment necessary for the various operations,

including a precision incubator, drying oven, autoclave, centrifuge, scales, microscope, colony counter, dressing tables and other necessities. A light weight mobile shockproof X-Ray unit has been included complete with all accessories.

The general layout of the building was planned for easy circulation among the various facilities and the building is proving to be of great benefit to the many activities of the entire Health Department. The cost of the project, including lot, building, and equipment was \$52,000.00 Title to the Center is held by Union County, with no strings attached.

How To Make Your Vacation Safe

By

CARL V. REYNOLDS, M.D.

North Carolina State Health Officer

WITH vacation season now well advanced, many are making preparations to enjoy the rest period to which they have been so eagerly looking forward. Those who are willing to use their legitimate allotments for this purpose and are planning motor trips will have their automobiles thoroughly checked for any defects that might result in inconvenience or disaster, while those who are traveling by bus or train will make sure they can get accommodations on certain specified dates.

Besides those who plan to "get the gas" somehow; those who plan to use the buses and railroads, despite the appeal from their government that the public refrain from taking up space on carriers that might be used in transporting troops fighting that people at home may go on having vacations, and those who will rest at home, there are others who will go to some quiet spot nearby, just to break the monotony of everyday business life.

Where one goes on his vacation and how he gets there is a matter for personal determination; but, in any event, **certain precautions are highly essential** for the preservation

of health.

Those who plan to take vacation trips, whether long or short, should review the first aid methods they studied a year or so ago when there was a possibility that we might have to undergo air raids.

First Aid Knowledge Important

Every family planning a vacation should provide itself with a reliable first aid book and a kit. Knowledge of how to dress wounds, care for insect bites, ivy poisoning, or sunburn, and how to prevent drowning may mean the difference between a pleasant and an unpleasant vacation, or it may possibly mean the difference between life and death.

No one should go on a vacation trip without first making sure that he or she has been properly immunized against typhoid fever.

Also, the vacationist should choose a location with a safe water and milk supply. If there is any doubt about the water, it should be boiled before it is used for drinking purposes, and if pasteurized milk is not available arrangements should be made to pasteurize by the simple home method before it is consumed

as food.

Simple Way to Pasteurize

Equipment needed for pasteurization includes bottles, caps, a special dairy thermometer, and a pail with a rack in the bottom. If the milk comes in bottles, it can be pasteurized as it comes. Otherwise, it should be poured into bottles and each bottle closed with a tight cover.

To pasteurize milk, remove the cover from one bottle, and pour out a little milk. Punch a hole in the cover, and then put the cover back on. Insert the special thermometer in the hole. Then, set all the bottles of milk on a rack in a pail filled with cold water, which comes nearly to the top of the bottles.

Then heat the water containing the milk bottles until the thermometer registers 145 degrees fahrenheit. Then, remove the pail from the heat, but leave the bottles in the hot water for 30 minutes. If, within that period, thermometer falls below 145 degrees, reheat and keep it at that temperature. After the 30-minute period has elapsed, replace the water in the pail gradually with cold water until the milk has cooled. Then, keep the milk in a cold place, preferably in a refrigerator, of course.

Many have a mistaken idea that pasteurization is unnecessary in the country, where the milk supply goes directly and promptly to the consumer. As a matter of fact, pasteurization is necessary anywhere, to be on the safe side, as epidemics of milk-borne diseases may have their source on the farm where the milk is produced.

Sterilize, Screen for Safety

To protect yourself against malaria, avoid going where the anopheles mosquito is known to be present. In any event, see that the camp house you occupy or the cottage you rent, or the hotel in which you are a guest, is properly screened. This will not only protect you while indoors against all breeds of mosquitos, but also against house flies and other flying insects which may cause sickness or discomfort.

Be sure to guard against flies, which transmit filth-borne diseases and constitute one of the greatest menaces to health, being carriers

of typhoid fever and other germs.

Wherever you are, avoid ticks and fleas, which transmit serious diseases, including Rocky Mountain Spotted Fever and typhus fever.

Avoid Swimming, Bathing Hazards

During the summer months bathing and swimming constitute our chief seasonal outdoor recreation. Both are invigorating and healthy, but each has its dangers. Swimmers and bathers, therefore, should guard against cramp while in the water, which may result in drowning, and in excessive sun burn, which may have very serious consequences. Do not overexpose yourself to the direct rays of the sun. It would be best to ask your personal physician for advice on this subject. He can tell you just how much you ought to be able to stand, in the way of exposure to the sun, and give you other valuable suggestions which, if followed, may save you much trouble and perhaps illness.

It is hoped that all who can do so will take a vacation, or rest period of some kind, because every one needs relaxation and recreation. But, wherever you go, make sure that you will return to your home refreshed, rather than afflicted by some condition or disease that could have been prevented by the use of good judgment and common sense.

Announcement

There has recently been received from the printer a supply of supplement number 1, volume 60, of the Health Bulletin.

This supplement is a reprint of the State Board of Health Communicable Disease Regulations, the revised edition of which was adopted in December 1944.

Official notice of the publication of these regulations is hereby given, as required by law.

Copies of the above supplement to the Health Bulletin may be obtained by writing to the Division of Epidemiology, State Board of Health, Raleigh, N. C.

Quarterly Report Rutherford-Polk District Health Department

By

B. E. WASHBURN, M. D.

District Health Officer

For the Quarter, January, February, March,
1945

DURING the first quarter of 1945 the work of the Rutherford-Polk District Health Department was conducted along routine lines, except that more time than usual was given to school work. It may be stated briefly that the M&I clinics held in various communities of the two counties were well attended. The number of ante- and post-partum cases has decreased, however, due to the fact that the wives of service men are cared for under the E.M.I.C. program. Also, with more prosperous times, the midwives have fewer cases than usual since more women than ever before are able to pay for hospital and medical care during confinement.

The Venereal Disease Clinics continued to do successful work. Practically all new and early cases of syphilis and of sulfa-resistant patients with gonorrhea are now being sent to the Rapid Treatment Center in Charlotte. This has markedly decreased the number of patients treated in the local clinics; but these diseases, especially, gonorrhea, continue to spread and far too many of the new patients are in the teen-age group.

There was a decrease in the occurrence of infectious diseases during the quarter; only 1 case of diphtheria, 24 of scarlet fever, 1 of meningitis, 9 of whooping cough and 1 of infantile paralysis were reported. It is of note that doctors, teachers and parents are alert in reporting these diseases, and a majority of our medical men placard the house where an infectious disease occurs at the time the diagnosis is made. And each month an increasing number of contacts are being fluoroscoped because of suspicious symptoms of tuberculosis. Crippled children are sent to the Orthopedic Clinic in Asheville on the fourth Saturday of

each month, transportation being provided by the local Kiwanis Clubs.

As already stated, work in the schools was the leading activity of the quarter. In this field a definite program is being followed which has had the best of support from the teachers and school authorities. The teachers cooperate by making preliminary examinations of all pupils at the beginning of the term. Children with evident defects, those who are unable to pass their grades, and any who appear to be handicapped in their school work are referred to the Health Department. Each school is visited in turn and the health officer and nurse examine these referred pupils. The parents of those having defects requiring special surgical or medical treatment are sent letters which explain the nature of the defect with the suggestion that the family doctor be consulted regarding treatment. In many cases teachers and nurses make home visits to interview the parents. Much success has been achieved in the correction of defects. The Rutherford Hospital and St. Lukes (in Polk) hold weekly tonsil clinics in which pupils are given the operation at reduced rates, these clinics being organized by the public health nurses. During the quarter, 94 school children in Rutherford and 18 in Polk had tonsil operations at these clinics. Eye clinics are held through cooperation of the County Welfare Departments and Dr. W. E. Brackett, of Hendersonville. At these clinics 28 children in Rutherford and 22 in Polk were fitted with glasses during the quarter. In the case of pupils who are not able to pay all or any of the cost of examination and glasses the Lions Clubs of the District provide the funds necessary. In addition to the work of the clinics many other pupils had their eye defects corrected and their tonsils removed by private

arrangement.

Our school program was greatly improved by the School-Health Coordinating Service, which worked in our district during the last quarter of 1944. Dr. W. P. Jacocks, the Director of the Service, placed \$850.00 at the disposal of the Health Department for the work of correcting defects, provided a similar amount was raised locally. This has been done and at present no child has to go without treatment because of financial reasons.

An important feature of the school program has been the teaching of nutrition. At present all the large schools (26 in Rutherford and 7 in Polk) have lunch rooms through cooperation with a Government program. These are inspected regularly by the Sanitary Inspector and there has been great improvement in the cleanliness of the cafes, as well as of the school and grounds, as a result of these inspections. Already two of our schools (Caroleen and Tryon) operate grade A cafes. As a result of inspection work the sanitation and cleanliness of hotels, markets and cafes continue to improve. Our District, however, is too large; a second inspector is badly needed, since at present many homes are installing water and sewage disposal plants and others are building new sanitary toilets.

As part of the school program, Pre-School Clinics are held each spring. These began in

March and it is pleasing to report that about 90 percent of the pupils who are to enter school for the first time next term are attending; and more than half of the children are accompanied by their parents. The plan is to have these young children spend the day at the school as guests of the first grade. This acquaints them with school life and at the hour of the clinic they are joined by their parents who are present when they are examined by the health officer and, later, vaccinated for smallpox and diphtheria by the nurse. Good results in the detection and correction of defects are being obtained through these Pre-School Clinics. And finally, lectures are given to the high school seniors on the work of the State and County Health Departments, and how these agencies cooperate with citizens.

At the end of January, Mrs. Frances Hopkins resigned as secretary to take up work with the Charlotte Health Department. She had been secretary of the Rutherford, and later of the Rutherford-Polk District Health Department, since their organization more than 10 years ago. The new secretary, Miss Beulah Edwards, began work on January 15. Also, on January 15 the staff was joined by Mrs. Verna Lee Bradley, as a War Emergency Public Health Nurse.

Mrs. O'Kelley

By

MRS. EMILY PICKARD, Supervisory Nurse
Durham Health Department Staff

RECENTLY the Durham Health Department honored Mrs. Elizabeth B. O'Kelley with a lovely cake and a shower of gifts on her 75th birthday. Mrs. O'Kelley is a veteran on the staff, having served with the department for 29 years as nurse-secretary. Today she is in excellent health, and performs her duties efficiently and with the interest and enthusiasm which is characteristic of her.

Mrs. O'Kelley is a native of Bradford Coun-

ty, Pennsylvania. After receiving her basic nurses training at the Hudson River State Hospital in Poughkeepsie, New York, she had a year's post graduate work at the Maryland General Hospital in Baltimore, Maryland. In 1900 she came to Durham to be Superintendent of Nurses at Watts Hospital, leaving the position after marrying Dr. J. M. O'Kelley, one of Durham's leading physicians. During Dr. O'Kelley's life Mrs. O'Kelley was a model



wife and mother. Following his death, she returned to her profession and became a member of the Durham Health Department in 1916. At that time there were only three members of the staff, Dr. Arch Cheatham, Superintendent; J. H. Epperson, the present Superintendent and Mrs. Clyde Dickson.

During 1944 Mrs. O'Kelley gave 1185 immunizations for smallpox, diphtheria, and typhoid fever, besides handling the routine office business. It is estimated that she has given over 40,000 immunizations during her term of service. Her contributions to the effort to

control communicable disease in Durham County has been inestimable.

No one in Durham is more admired or loved by more people than Mrs. O'Kelley. She is an active member of the First Presbyterian Church and of the Southgate Chapter No. 177, Order of the Eastern Star. Her integrity and spirit of service have been unbroken through the years.

It can truly be said of Mrs. O'Kelley, "She openeth her mouth with wisdom and in her tongue is the law of kindness." Prov. 31:26.

Notes and Comment

HEALTH CENTERS

IN this issue we are noting the dedication of the Union County Health Center at Monroe. Our June issue was given over largely to the dedication of the Elizabeth City Health Center. In our February, 1942, issue we had a paper on the housing of health departments by Miss Mary Bachelor, then Field Representative of the North Carolina State Board of Health. In this paper she commented upon the improvement in the housing of local health departments during the six year period of observation and stated in her opening paragraph,

"In no field has the progress been more widespread nor more badly needed than in the matter of housing the health departments." In our December, 1942, issue our front cover was a picture of the Health Center of Cumberland County Health Department. In that same issue Dr. M. T. Foster, Health Officer of Cumberland County, gave us a description of this first modern center to be constructed in North Carolina. In our September, 1943, issue our front cover showed the new building for the Consolidated Board of Health of New Hanover County and the City of Wilmington.

Since then additional health centers have been constructed at Goldsboro, New Bern and Jacksonville. To a considerable extent the physical facilities of a institution give visual expression of the place which the institution holds in the opinion of the people whom it serves. Any person who has been in public health work long enough to be considered a veteran can remember when most of the health departments were in basements or in attics. Now-a-days most of our health departments have quarters which would cause even the casual observer to consider them as successful institutions. The health centers which have been constructed during the past three years represent thoughtful adaptation of the building to the needs of the department, as well as to its location. Those who pioneered in the designing of these buildings should be able to give helpful advice to those who will construct health centers in the future.

LOCAL HEALTH WORK

The object of all public health whether it be directed from Washington or Raleigh is to bring the benefits of modern science to the people. Our local health departments are, therefore, most important. The Quarterly Report of the Rutherford-Polk District Health Department, sent to us by Dr. Washburn, District Health Officer, should give our readers a clear conception of what a local health department can do. During the past few days we have received the following annual reports—"Steering Toward Better Health in New Hanover County" and "Charting the Course to Good Health" by the Edgecombe-Halifax Health District. Both Dr. A. H. Elliot in New Hanover County, and Dr. W. K. McDowell of the Edgecombe-Halifax Department, give a creditable accounting of their stewardship, reporting the activities of their departments in a comprehensive and interesting manner. Both reports are attractively illustrated by sketches. Those of us who spend public funds have the responsibility for telling the tax-payers of the use which we have made of their money and the results which its expenditure has accomplished.

CADET NURSES

"To relieve the serious nursing shortage by producing graduate nurses more rapidly, Congress, in June 1943, unanimously passed the Bolton Act making it possible for qualified young women interested in professional nursing to receive all-expense Federal scholarships under the U. S. Public Health Service. All students enrolling under the plan are members of the U. S. Cadet Nurse Corps. At the present time, student nurses are giving approximately 80 percent of nursing care in civilian hospitals.



Robert Butner Trotman, Junior, son of Mr. and Mrs. Robert Butner Trotman, Plymouth, North Carolina. When this picture was taken Robert, Junior was four and one-half years of age. He weighed forty-three pounds. His dentist says he has a perfect set of temporary teeth. His Mother was the former Miss Mozelle Hendricks, a public health nurse who served faithfully and well as a member of the staff of the State Board of Health.

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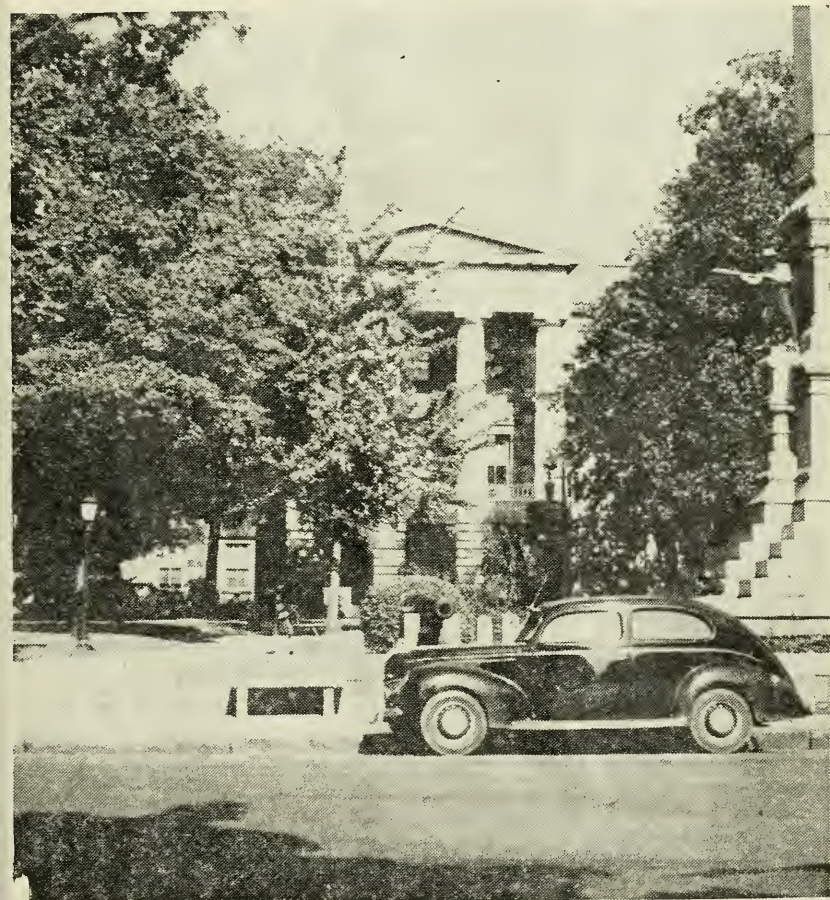
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Sanitary Privies
Appendicitis	Health Education	Scabies
Cancer	Hookworm Disease	Scarlet Fever
Constipation	Infantile Paralysis	Teeth
Chickenpox	Influenza	Tuberculosis
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Veneral Diseases
Don't Spit Placards	Padiculosis	Vitamins
Endemic Typhus	Pellagra	Typhoid Placards
Flies	Residential Sewage	Water Supplies
Fly Placards	Disposal Plants	Whooping Cough

SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters.)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother.	Diet List: 9 to 12 months; 12 to 15 months;
Breast Feeding.	15 to 24 months; 2 to 3 years; 3 to 6 years.
Infant Care. The Prevention of Infantile Diarrhea.	Instruction for North Carolina Midwives.
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How The North Carolina State Board Of Health's Revised Communicable Disease Regulations Were Prepared

By

C. P. STEVICK, M. D.

Acting Director, Division of Epidemiology
N. C. State Board of Health, Raleigh, N. C.

ON December 14, 1944 the State Board of Health, under authority granted by the General Assembly, adopted the latest revision of its Regulations Governing the Control of Communicable Diseases in North Carolina. This action was preceded by about 12 months of intensive preparation. A summary of this activity is presented here.

The revision of the regulations previously in use was undertaken early in 1944 by the Division of Epidemiology.

In order to prepare the material in a form standard with that existing in other parts of the country the communicable disease regulations of a representative group of states were studied. The better features of each were listed, together with certain proposals obtained from staff members of the North Carolina Health Department relating to the particular needs of our own state.

One of the chief objections to the old regulations was that school restrictions were located in one part of the regulations, carrier restrictions in another part, and the isolation and other requirements in still other parts.

Another difficulty to be overcome—and this

was common in the regulations of other states—was the necessity for reprinting the entire text of the regulations in order to revise any one part.

The first of these two problems was solved by listing under each disease all of the detailed information that would be needed. The second problem was overcome by arranging the text in such a way that it could be printed in loose-leaf form. Each regulation was to begin on a separate sheet so that revision of any particular regulation could be carried out at any time by supplying only one or two new sheets. The official text was to be published in loose-leaf form while for general distribution a pamphlet would be available.

The first decision that had to be made in regard to the actual content of the regulations was the selection of the group of diseases to be covered. All of the diseases included in the regulations of the 48 states were listed and then graded on the basis of case fatality rate, potential prevalence in North Carolina, and availability of control measures. By selection of the appropriate groups a list of 44 diseases was prepared. The control program for 35 of the 44 diseases was so constituted that it was

necessary to require reporting. For the remaining 9, however, reporting was not considered to be essential to the control program, although certain regulations were needed.

With this information in mind, then, the first draft of the text was written by hand. The necessary textbooks and other references were consulted as the work progressed. The publication of the American Public Health Association, "The Control of Communicable Diseases", was invaluable in assembling the latest and most efficient requirements for communicable disease control.

As the handwritten draft of each regulation was completed a typewritten copy was made. This was discussed with various staff members of the State Health Department, corrected and revised. The typewritten copies of each regulation were then assembled to form the first tentative copy of the text as a whole.

It was determined at this point that approximately 18 additional copies would be needed in order that various interested groups could be given the material for study and comment.

The typing staff of the Division was given the difficult job of preparing the 18 copies from the original text, which contained 129 letter-size pages. This was done in about six weeks by making two sets of eight carbon copies and one original each of every page of the text. For those who like such statistics, a total of 2,064 sheets of carbon paper was used.

In May copies of the tentative draft of the new regulations were distributed to the nine members of the State Board of Health, the U. S. Public Health Service, certain members of the faculty of the School of Public Health at Chapel Hill, the Committee on Communicable Diseases of the Health Officers' Section of the North Carolina Public Health Association, and others.

Suggestions were requested from all these sources and as they were received they were studied and some incorporated into the text.

In September at the time of the regular quarterly meeting of the State Board of Health there were several decisions to be made on certain details of the requirements of the reg-

ulations. On some of these questions the recommendations received had been in conflict. At the Board meeting the points in question were discussed and settled.

The final draft was then ready for typing. The arrangement, punctuation, and factual information were given a final check and typing was begun. The typing of the final draft was again a formidable task, since sufficient copies were needed to provide each member of the State Board of Health with a copy in advance of their next meeting.

By the time the State Board of Health met again on December 14 the final draft had been completed and corrected and copies mailed to each member. Actual adoption by the Board was merely a matter of a few moments.

Since considerable time would have to elapse before the printed copies could be obtained, an outline was prepared containing the minimum facts necessary to put the new regulations into effect on January 1, 1945, as voted by the Board. This outline was mailed in quantity during the last two weeks of December to the various health departments of the state for distribution to physicians and school officials.

The printer's proof of the complete text was received late in January and was corrected. The corrected proof was received from the printer in February and was found to be satisfactory. Printing was scheduled to begin immediately, but due to mechanical difficulties and shortages the job was not completed until the first week in June.

A person is injured in a home accident every six and one-half seconds, says the National Safety Council. That means that injuries from home accidents total more than 13,000 every day in the year.

The number of persons under 25 years old who are drowned each year is the equivalent of the normal complement of 30 U. S. Navy destroyers, according to the National Safety Council.

Why Surrender at 40-Plus?

By

WILLIAM H. RICHARDSON

N. C. State Board of Health, Raleigh, N. C.

WHETHER you live to be 70—or older—depends, to a great extent, on how you live before you are forty.

During the past century, especially since the discovery of so many methods of preventing and controlling diseases that formerly held our death rate to a high level, longevity has been given a decided boost. In the mid-1800's, a child, at birth, could be expected to live only about 38 years, as compared with nearly 65 years today.

The average layman knows that the first year of a child's life is the most dangerous. In North Carolina last year, for example, the death rate among infants under 12 months old was 44.7 per one thousand, as compared with a general death rate of 7.9 for each thousand persons of all ages. These figures need no clarification. They speak for themselves.

After the first year, the child has a better chance for survival than at birth or during the ensuing twelve months.

We all know, said Dr. Carl V. Reynolds, State Health Officer, that human expectation has been lengthened by the discovery of methods for controlling what we call juvenile diseases, but as to the eradication, or even the control, of many of the diseases that cause death in middle and late life, we have not even scratched the surface.

We have, Doctor Reynolds went on to explain, many problem children in the realm of disease—diabetes, from the cradle to the grave; cancer; cardio vascular diseases, many of which result from conditions which, if diagnosed and treated in their early stages, could be cured.

Cancer is a potential skeleton in the closets of men and women of middle life and advanced years; yet, cancer, if diagnosed and treated when its first symptoms appear, is curable. The main thing is early detection,

then treatment, without delay, by one of three methods—surgery, radium, or x-ray.

It is highly important, the State Health Officer declared, that no acute condition be ignored, lest, sooner or later, it becomes chronic. Do not wait; do not permit any condition to become chronic by neglecting diagnosis and treatment on the assumption that it is merely acute.

Nearly one fifth of all deaths in North Carolina are caused by diseases of the heart. During the ten-year period from 1934 through 1943 there were 56,852 such deaths in this State, with the trend steadily upward, as is evidenced by the fact that 980 more such deaths occurred during the calendar year of 1943 than in 1934.

Many diseases of the heart result from conditions which, if diagnosed and treated in their incipency, could be checked, or eliminated altogether. Without attempting to give percentages, it is a known fact that fatal heart diseases often result from syphilis. In fact, there are thousands of such deaths all over the United States every year, among men and women in middle life, and even old age, which are traceable to cases of syphilis contracted in early life but permitted to go on untreated. There is, as yet, no immunization against syphilis, but it can be cured, if it is not allowed to run into its final stages. Then, it is too late to repair the damage, which may manifest itself in a disease of the heart that proves fatal; in incurable insanity, and in numerous other ways.

A member of the staff of the State Board of Health was asked to name a few of the acute diseases which may, and do, result in diseases of the heart. He named syphilis first; then diphtheria, scarlet fever, measles, typhoid fever, and rheumatic fever, as fair examples. Syphilis can be cured; diphtheria can be prevented and cured; typhoid fever can be pre-

vented. Rheumatic fever, this doctor explained, results from focal infection which, if diagnosed and treated early enough, may be cured.

Speaking of diphtheria, North Carolina is certainly setting no enviable record for 1945 in deaths from this preventable disease, of which there had been 21 through May, as compared with 15 during the corresponding period of 1944.

We all know that the best way to forestall results is to eliminate causes. That is to say if all degenerative diseases which result in death in middle life and old age could be diagnosed and treated in their early stages, many such deaths could and would be prevented, and the expectation of man would be further extended. But there seems to exist a spirit of defeatism concerning these diseases—a resignation on the part of their victims to their inevitability. After any acute condition has reached a chronic stage, it is much harder to deal with, as the State Health Officer points out. That is why he suggested that this broadcast constitute a warning against delay in the diagnosis and treatment of illnesses presumed to be merely acute.

Public health is concerned, of course, with communicable diseases, whether such disease are acute or chronic. It strives to control the spread of such diseases through preventive medicine, which includes precautionary regulations.

At the same time, public health also is interested in the overall health of the people, and strongly urges general medical care as a means of increasing the span of life. Concerning the child, it says it **must** be vaccinated against diphtheria and whooping cough. To the man or woman with a lesion that is slow to heal, it says: Consult your doctor at once; let him make a thorough examination—let him diagnose and administer or recommend the necessary treatment, and, thereby, guard against cancer, or cure it if it is present in its early stages. There are thousands of people in middle and late life all over the United States who have been cured of cancer because they submitted to early diagnosis and

treatment, but who, if they had not done this, would have, long since, been dead. Would that public health workers could be supplied with the proper funds to engage in cancer research and wage a campaign of education as to how to prevent deaths from this disease of middle age and late life.

Until it is in a position to do more, public health will continue to sound its note of warning against the neglect of any condition on the assumption that it is merely acute, when, in reality, it is headed toward chronicity and incurability.

The best insurance against diseases that fatally attack people in middle and late life is eternal vigilance, in the form of general medical care. Any physician would much prefer keeping his patient well than treating him through a period of extended illness—moreover, any qualified medical doctor is capable of making periodic check-ups and of warning his patients against the encroachment of diseases that might prove painful or fatal.

Gains that have been made in the reduction of infant and maternal deaths are due largely to the extension of pre-natal, obstetrical and post-partum care. What medical science is in a position to do in this field it is capable of doing in other fields.

Pregnancy, for example, is a normal thing, yet it constitutes an acute, or temporary, condition. Without proper care, the expectant mother might easily forfeit her life. Therefore, she seeks medical advice and accepts medical care in her unwillingness to take any chances, or to run unnecessary risks.

Following up this same line of sensible procedure, it is highly advisable that all acute, or temporary, conditions of the body be checked, in order that serious consequences be avoided.

Reduced to an understandable proposition, it all means simply this: Keep your bodies in repair and they will last longer. Not even an old house falls to pieces suddenly if it has been kept in a state of constant repair. And there is no reason why an old human constitution should. It will not, if it, like the

well-cared-for house, has been kept in a state of constant repair.

Mental hygiene also offers a fertile field for research. As many diseases of the body can be prevented if diagnosed and treated in their early stages, so could mental sickness

in many cases, if causes were studied and such sickness not permitted to grow from incipency to maturity. The best way to empty our mental institutions is not by way of the cemetery, but by studying causes that produce end results.

North Carolina Hero Profile*

IF Brigadier General James Simmons were to wear a medal for every honorary and medical degree that has been awarded to him, there would scarcely be room for the buttons on his jacket. Among his more recent honors are: the U. S. A. Typhus Commission Medal, the Walter Reed Medal, and the A. P. H. A.'s Sedgwick Memorial Medal.

Combined with the innate simplicity of all truly great men, his is a nature that is warm, gregarious, unassuming, and fun-loving.

The 55-year-old General is of medium height; his neatly combed, iron-gray hair reveals a high, intellectual forehead. Under dark outstanding brows, blue-gray eyes regard the world with a penetrating calm and, although they reflect the scholarly findings of years devoted to painstaking investigation and research, they fail to conceal a superb sense of humor.

His Roman nose gives him an air of dignity and fastidiousness—borne out by an habitually well-groomed appearance—this is balanced by a firm, finely modelled mouth that indicates not only his great tenderness but the courage and initiative underlying his ability to carry through his convictions.

It was this courage which enabled him, during the present war, to carry through the Army's global-health program in preventive medicine. Despite the difficulties and setbacks encountered at the start, he achieved so remarkable a triumph for military medicine that when Dr. Winslow presented him with the Sedgwick Memorial Medal he was moved to say of General Simmons, "His is a noble

example of the application of science in the service of the state."

One of the foremost bacteriologists of his day, the Chief of the Preventive Medicine Service in the Office of the Surgeon General (U. S. Army) showed an early interest in biology when he devoted his spare time, as a school-boy, to collecting snakes, turtles, and birds' nests and eggs in the Piedmont section of North Carolina. This youthful enthusiasm was echoed some 30 years later when he was in Panama and, literally, filled his house with orchids and mosquitoes.

Graduating from the High School, in Graham (N. C.), he went on to Davidson College to take his B. S. degree. It was there that his interest in bacteriology was aroused and, deciding to specialize in the subject, he became a student instructor at the College. This, together with a profound interest in human welfare, prompted him to turn to the study of medicine.

In 1915, graduating with his M. D., he spent the following year in the University of Pennsylvania's laboratory. By that time World War I had been going on for two years and, realizing that his country's entry into the conflict was imminent, he accepted a commission and went to Army Medical School for a course in military preventive medicine.

His first assignment with the Army took him to the Mexican border serving as Director of Laboratories; from where he went on to organize and command Overseas Laboratory No. 6 at Yale Army Laboratory School. All hopes of taking his preventive medicine unit

overseas were crushed when the war ended the following November.

By this time he was a major—a rank he held for 19 years; the next seven were spent in directing some of the leading Army laboratories throughout the U. S. A. and its possessions.

It was while he was Commanding Officer of the Hawaiian Department Laboratory in 1920 that he married Blanche Scott, a childhood friend who had been born in the house across the street from his, way back in Graham.

Before leaving Honolulu their daughter, Frances was born. The General recalls that she arrived as Fourth-of-July celebration. (Frances has since followed in her father's footsteps having specialized in biology when she attended Sweet Briar College in Virginia.)

After four years as Chief of the Bacteriology Department of Army Medical School, Major Simmons was sent to the Phillipines as President of the Army Medical Research Board and, from 1928 to 1930, did outstanding work on dengue fever and malaria.

He journeyed through China and Japan on his return home to take up his appointment as Director of the Preventive Medical Division (Army Medical School) remaining there until he went to Panama to establish a research board for the study of tropical diseases. There he conducted studies on the 15 anopheline mosquitoes in the region and made an important discovery which proved that four (hitherto not incriminated) were actually malarial carriers.

Shortly before the present war broke out in Europe, he went to Washington where he was entrusted with creating the present Preventive Medicine Service in the Surgeon General's office.

As Chief he has achieved the magnificent task of planning a global-health program which leaves our Armed Forces unprecedentedly free from disease.

In addition to this vast undertaking he formulated plans which resulted in the foundation of the U. S. A. Typhus Commission which was (in the words of his Citation

when he was awarded the Medal) "... due to his vision and broad conceptions, developed as a united undertaking between the Army, Navy and U. S. P. H. S. . . . Although already burdened with extensive duty and responsibility, (he) has devoted his energy, knowledge, and ability to the development of all phases of the program and activities of the Commission."

Checking on the way in which the Army's Preventive Medicine program was being applied in the various theaters of war, he visited those in Europe, Africa, the Middle East, China, Burma and India.

On his return 18 months ago the General said, "I was impressed by the tremendous health problems we are facing and equally impressed by the way they are being handled by our Medical Department."

This year he has visited most of the Army bases in the Pacific area.

Known to his friends as "Steve", the General likes to relax by digging in his backyard or playing a stiff set of tennis.

He is also an ardent fisherman who enjoys eating his catch. Especially does he relish the "hush puppies" that finished off a campfire meal on fishing trips in the South; those delectable morsels of cornmeal batter tossed into the last of the frying pan's sizzling fat (originally made to hush the hungry dogs that hang around barking at the good smells) but now devoured by the would-be "hushers" themselves!

However, in these strenuous days, about the only recreation in which he can indulge is reading; most of this is done aboard trains where he reads himself to sleep with a spine-chilling detective yarn!

During his stay in England he had some kind words to say about the climate. The American newspapers—intrigued by any praise of the much maligned British climate, went so far as to venture that in so doing the General had opened up "... a dazzling vista in U. S.-British relations!"

Stressing the gigantic scale of the measures needed to keep millions of soldiers well and battle fit, General Simmons commented terse-

ly, "It is easier to take care of the sick than to keep people from being sick."

Summing up on the results of the global-health program General Simmons says: "I believe we can look forward with confidence to the return, not only of a healthy citizenry, but of men whose outlook on public health

and on the individual's capacity to save himself from disease will result in an actual contribution by the war to the betterment of the health of the nation."

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*Taken from NOPHN leaflet.

From The Baruch Committee On Physical Medicine

597 Madison Avenue, New York 22, N. Y.

THAT the Baruch Committee on Physical Medicine, established in 1944 by Bernard M. Baruch with a gift of \$1,190,000, is achieving results beyond its most hopeful expectations is made clear in its first annual report which has just been forwarded to its founder by Doctor Frank H. Krusen, director of the Committee.

In creating the committee and bestowing

his benefaction in April 1944, Mr. Baruch announced that its purpose would be to advance and encourage the knowledge and practice of physical medicine throughout the nation and the world—with the special aim of bringing its benefits to disabled veterans of the war, and assisting in their rehabilitation and restoration to working health and usefulness.

Mr. Baruch's father, the late Dr. Simon Baruch, served as a surgeon in the Confederate Army in the Civil War and was a pioneer in physical medicine. Throughout a long professional life Dr. Baruch always deplored that the state of medical practice in Civil War years had been ineffective to restore to post-war usefulness thousands of soldiers maimed and crippled on both sides of the conflict.

Physical medicine, in modern medical terminology, is that branch of medical science which, in conjunction with or succeeding surgery and hospitalization, undertakes the long course of restoration to working activity by the employment of heat, light, water, electricity, massage, manipulation, exercise and mechanical devices. It is a field brought into prominence and importance by the last war and rendered immeasurable important by the present one, both to the medical profession and mankind. The field, previously, had been imperfectly understood and much neglected.

In the present first annual report of the Baruch Committee, stress is laid early in its pages on the fact that its influence on the advancement of physical medicine has been so great that one medical journal reported that "the year 1944 will go down in the history of physical medicine as one of the great strides toward its long delayed expansion." And that in a survey of 124 medical centers with which the committee has been in communication, 88 reported significant advances in physical medicine's development, with 75 of them declaring that the advances were "directly attributed to the activities of the Baruch Committee." There was, further, consensus of agreement that the committee's activities had caused increasing general interest in the field of medicine it fosters, and growing cooperation and comprehension of it on the part of the public at large.

The medical schools of ten universities and colleges—their chain extending clear across the United States—are participating in the original gift of \$1,190,000 by Mr. Baruch, and the report lists the various activities and achievements which have been made possible

to them by its bestowal. There is also a fellowship fund of \$100,000 for the encouragement of medical students at the various institutions who may plan to make physical medicine their specialty and devote their professional careers to it. Five fellowships, each carrying an annual stipend, have already been granted, and others are waiting to be awarded pending the release of certain promising physicians and students as present still in the armed services.

The grants to the different institutions have been as follows: \$400,000 to the College of Physicians and Surgeons of Columbia University; \$250,000 to the College of Medicine of New York University; \$250,000 to the Medical College of Virginia from which Dr. Simon Baruch, Mr. Baruch's father, received his medical degree in 1862; \$50,000 to the Massachusetts Institute of Technology; \$40,000 to the University of Minnesota; \$30,000 to the University of Southern California; \$25,000 to Harvard University; \$15,000 to the University of Iowa; \$10,000 to Washington University of St. Louis, Missouri; \$15,000 to the University of Illinois, and \$5,000 to Marquette University. Harvard University has also been granted a separate donation of \$30,000 with which to establish a three-year fellowship program. The grant to Massachusetts Institute of Technology was made especially for the establishment of a laboratory for the training of Baruch fellows and other competent doctors interested in the field of physical medicine, and for research and development in electronics in relation to the field.

The report discloses that special departments of physical medicine have already been established in the medical schools of Columbia and New York Universities and at Medical College of Virginia, the three donees of the Baruch benefaction receiving the largest grants. At New York University all fourth year medical students have to take physical medicine as a required course. Columbia, in addition, plans to confer the degree of Bachelor of Science from non-medical schools of the University who successfully complete the technical course.

The Medical College of Virginia has set

up a special Baruch Center and relates that in the particular location of the college (Richmond) and under the particular conditions of its population, the field of physical medicine has been of exceptional service to its patients, and the wide variety of clinical problems presented by the patients of exceptional service to physical medicine.

The Committee, always with war veterans in the forefront of its intentions, works in the closest cooperation with the armed services and lists many conferences with the Surgeons General of the Army and Navy, the Air Surgeon and the Veterans Administration. Visits have been made by committee representatives to twenty-five Army and Navy hospitals. Announcement of the availability of Baruch fellowships has been sent to 3,500 medical officers released from the military services during the year. The Committee's subcommittee on war and postwar physical rehabilitation and reconditioning is composed almost wholly of medical officers of the Army and Navy and has held seven meetings in Washington. This subcommittee has been most active in promoting the advance of physical medicine as related to rehabilitation in the various governmental services, and has furthered the exchange of ideas as to the rehabilitation of soldiers, sailors, veterans and civilians between representatives of the governmental rehabilitation and reconditioning services, and has guided the broad development of physical medicine as related to them.

The Baruch Committee above all, and as its report emphasizes, seeks to bring the necessity and value of physical medicine to the knowledge of the public at large, and to this end maintains a wide contact with consultants of many kinds. It has provided advice and guidance to all persons seeking information, and has handled inquiries dealing with such varied subjects as training courses, scholarships and fellowships, problems of research, problems of teaching and of rehabilitation, and questions of education, hydrotherapy, electronics and physical therapeutic and curative measures.

Approximately fifty scientific papers dealing

with different phases of physical medicine have been prepared and distributed by committee members during the period covered by the report. Communication has been kept constant with all the medical schools of the country and with the organizations whose fields of interest are related to its own. These have included, with many others, governmental agencies, medical and technical organizations, journals and rehabilitation groups. Forty medical schools and civilian hospitals have been visited, and representatives of the committee have conferred with more than 200 individuals and centers. More than 50,000 copies of the original report of its survey committee have been distributed in this and foreign countries.

The committee is national in personnel as well as in scope, and is made up of the following members: Dr. Ray Lyman Wilbur, Chancellor of Stanford University, Stanford University, California, chairman; Dr. Frank H. Krusen, Mayo Clinic, Rochester, Minnesota, director; Miss Mary A. Boyle: Dr. John Stanley Coulter, Northwestern University Medical School, Chicago, Illinois; Dr. John F. Fulton, Yale University School of Medicine, New Haven, Connecticut; Dr. Charles Gordon Heyd, New York Post-Graduate Medical School, Columbia University, New York; Dr. Andrew C. Ivy, Northwestern University Medical School, Chicago, Illinois; Dr. Chauncey D. Leake, University of Texas Medical Branch, Galveston, Texas; Dr. Frank R. Ober, Harvard Medical School, Boston, Massachusetts; Dr. Winfred Overholser, St. Elizabeth's Hospital, Washington, D. C., and Dr. Francis O. Schmitt, Massachusetts Institute of Technology, Cambridge, Massachusetts.

The total membership of the subcommittees includes more than thirty distinguished physicians and scientists from all sections of the United States.

Over one billion dollars has been spent to date on the treatment, compensation and vocational rehabilitation of tuberculous veterans of World War I.

Tuberculosis Control Among Children Is Very Important

"IN most parts of the world at present children constitute the only group over which one can exercise complete tuberculosis control," three physicians declare in the July 21 issue of *The Journal of the American Medical Association*.

The three doctors—J. A. Myers and F. E. Harrington, of Minneapolis, and E. Garcia Suarez, Santiago, Chile—point out that every child is born free from tubercle bacilli, the germ which causes tuberculosis, and if his environment is adequately guarded his body will remain uncontaminated with these organisms.

"This necessitates," the authors say, "complete examination of all who are to be his (the child's) adult associates to find (1) those who already have clinical tuberculosis and (2) those who react to tuberculin (the simple skin test for tuberculosis) and are potential cases of such disease. Those who on first or subsequent examination are found to have clinical tuberculosis must be kept from the child's environment unless it can be proved continuously that their disease is not contagious. The child himself should be tested periodically to make sure that no unsuspected contagious case among transients and the like has come into his environment and infected him. This procedure should not be limited to childhood but should be continued when adulthood is attained. This is not a theoretical consideration of idealists. It is actually in practice with a high degree of success and must be the ultimate goal in every home and community."

Stressing the importance of tuberculin tests for the detection of tuberculosis, the doctors said that "the reinfection type of chronic pulmonary (lung) tuberculosis begins to make its appearance among tuberculin reactors in the early teen ages and increases in frequency with the decades. Since this fact was established the previous enthusiasm for examination

of school children has waned; indeed, in some places such work has been abandoned. This is an extremely unfortunate situation and is without practical or scientific foundation.

"Illness and death from tuberculosis always begin with the simple and apparently harmless infection, just as 'a journey of a thousand miles begins with a single step.' To refuse or neglect to find the infected child and conduct the necessary procedure in his behalf in any community is to ignore or overlook an important phase of tuberculosis work."

President Told More Doctors Are Needed For Postwar Period

Shortly after conferring with President Truman, a special committee of the Committee on Postwar Medical Service of the American Medical Association sent a memorandum to the chief executive, pointing to the country's failure to "provide for the training of enough physicians to meet the demands for doctors which we know will increase after the war."

The memorandum, mailed to the President recently and published in full in the July 21 issue of *The Journal of the American Medical Association*, was prepared by four physicians—Evarts Graham, St. Louis; Harvey Stone, Baltimore, and Victor Johnson and Fred C. Zapffe, both of Chicago.

The memorandum said in part:

"Even if admissions, enrolments and graduations from our medical schools should continue at the present wartime levels, only about half of this need would be met, since 40,000 students will receive the M.D. degree in the period 1942 to 1948 and 24,000 physicians will have died during that time. Thus, under the most favorable conditions only about 16,000 additional physicians will be available after the war to do the work of 30,000.

"In spite of this, freshmen enrolments in the medical schools of this country will be drastically reduced within the next year. In

the past year virtually no able bodied males have been permitted to commence the two year course of college premedical studies because the Army and Navy have ceased assigning men to such studies and the Selective Service System has discontinued deferments of premedical students. In the past few years each freshman class of about 6,000 students included 4,000 to 5,000 able bodied men. These are no longer available under existing regulations.

"This deficiency can be corrected under the present Selective Service Act as follows: Defer qualified men now in college premedical stu-

dies when they reach 18 and defer 8,000 selected high school graduates of this year to commence college studies in premedicine. From these, 4,500 should be earmarked for admission to specific medical schools a year later. Repetition of this procedure each year the war lasts would effect the training of enough doctors to care for the health of the people. Consideration might also be given to the assignment of a limited number of men now under arms back to premedical studies, provided they pursued such studies satisfactorily before induction, as far as this may be consistent with military necessity."

Defective Hearing Prevalent

DEAFNESS is not only a problem of adults but of children as well. Hearing of children is given more attention than ever before. This is one of the tests that should be a regular part of the health examination of preschool children. It is known that children who are in good physical condition are less prone to deafness. On the other hand, deafness may result from frequent head colds, influenza, measles, scarlet fever. These diseases often lead to infection of the middle ear which later results in loss of hearing. Infection reaches the middle ear through the narrow tube which connects it with the throat. Also, blowing the nose violently may force drainage from the throat to the middle ear resulting in infection. Children and adults, too, should be taught to wipe rather than blow the nose. If the nose is blown it should be done gently, closing one side at a time.

Another source of trouble may be the mother's yearning for clean looking ears. Wax is a natural secretion which, if left alone, will usually work its way out of the ear with no trouble. In her effort to remove wax, a mother sometimes uses cotton sticks. This results in a clean outer ear, but at the same time pushes wax further into the canal and may even pack it hard against the drum resulting in damage.

Medical attention early in an illness is a safeguard against chronic conditions which may lead to loss of hearing. Children who are taken to the family doctor regularly for physical examination and advice are protected from the effect of unsuspected conditions such as diseased tonsils, enlarged adenoids and other nasal growths. If the doctor finds that there is middle ear infection, he may incise the ear drum. This heals much more quickly and completely than if the pus in the middle ear forces its way through the drum. Incising the drum relieves the pressure and guards against a mastoid infection.

Deafness in adults may be due to failure to prevent hearing defects in children. It is true, however, that adults gradually lose their hearing ability in range of sound, that is to hear extremely high or extremely low tones. Their deafness may increase progressively due to age or if their physical condition is not up to par. About a third of all adults have deafness in one or both ears. It is often difficult to convince an adult that his hearing is not normal. In some cases this is due to unwillingness to admit it and in others no test has been made to reveal it.

Because even a comparatively small loss of hearing may be an economic or social handicap, it is advisable for all adults to have this

corrected as soon as possible. This is where special hearing devices are of great assistance in restoring a person to normal ways of life, where he can enjoy social contacts with others. The Leagues for the Hard of Hearing have rendered the greatest service. By banding together in their common problem, the deafened gain confidence in themselves and so are able to accomplish more. Even in wartime activities, deafness that has been corrected may not prove a handicap.

A program for the Conservation of Hearing should include in brief the following:

Case finding. This can best be done in schools through group testing by means of the audiometer. If done under proper conditions, this test screens out the children having hearing loss. Further repeat testing will eliminate false positives.

Parental education. as to the need for medical attention.

Examination by the child's physician or ear specialist, or both, to determine the nature of the hearing loss, its cause and any contrib-

utory factors. Treatment should then be instituted. This treatment may consist of medical, surgical or the use of the hearing aid.

Return to school for the needs which can be filled there; namely, seat placement so that the child can hear the teacher and as many pupils in the classroom as possible; seated so that the child can see the lips of the teacher if lip reading is an important factor.

Remedial instruction in the form of lip reading. Speech training in speech and voice where necessary. Schools may also have desk hearing aids for children who can benefit by them.

Vocational guidance and training, particularly in instances of severe hearing loss.

Community Planning Needed

In community planning for a well-rounded program not only are the services of the physicians, health agencies and the schools required but also those organizations which have concerned themselves for many years with this problem, namely the Leagues for the Hard of Hearing.

Notes and Comment

BY THE ACTING EDITOR

COMMUNICABLE DISEASE REGULATIONS

IN this issue of the Bulletin Dr. Stevick has outlined the procedures which were used in the last revision of the North Carolina State Board of Health's regulations governing the control of communicable diseases. These regulations are based upon what is generally accepted as good public health practices. When we compare them with previous regulations we notice that they are much more liberal in their provisions for reporting, as well as isolation and quarantine. Scientific information based not only upon laboratory findings but also upon accurate epidemiological studies has made it not only possible but practical to shorten periods of isolation and quarantine.

In the case of scarlet fever all of us remember when the infectious agent was supposed

to be transmitted over long periods of time and by such inanimate objects as clothing, dolls, books, etc. Now these theories have passed into the realm of superstition except in the minds of a few unenlightened individuals. We now know that there is nothing mysterious in the transfer of this infectious agent. Although it may be carried by milk and other items of food, the ordinary mode of infection is directly from person to person by means of the secretions of the respiratory tract. It was only a few years ago when the quarantine period for scarlet fever was six weeks. The reduction of the quarantine periods to four weeks did not increase the number of cases of scarlet fever. Neither did the shortening of the isolation period to three weeks cause the disease to be more prevalent. The close relationship of streptococcus infections, including scarlet fever and septic sore throat, has

been recognized for some time. North Carolina regulations now call for the reporting of septic sore throat only when the infection is supposed to be due to milk. North Carolina regulations are admittedly conservative. Perhaps a new chapter in the control of scarlet fever is now being written in New York City. In the quarterly Bulletin of the New York City Department of Health, July, 1945 issue, we find the following:

"In line with modern thought on this common disease of childhood, the Board of Health radically revised its isolation and quarantine procedures in scarlet fever on December 12, 1944. The regulations now include scarlet fever in the larger classification of 'streptococcal sore throat, including scarlet fever,' and change the isolation period in cases with no septic complications to the duration of the acute stage, the minimum period being seven days. The Board of Health further eliminated quarantine of household contacts to scarlet fever, making it no longer a requirement that such contacts stay out of school or work.

"The action of the Board of Health was based upon several factors. The first and most important of these is the fact that scarlet fever should not be considered a disease entity in itself, independent of other streptococcal throat infections. A large body of scientific work—clinical, bacteriological, immunological and epidemiological—indicates that the same hemolytic streptococcus (group A streptococci) which causes in one person septic sore throat, in another one erysipelas, and in a third puerperal sepsis, may cause in a fourth the syndrome which for centuries has been known as scarlet fever. The type of clinical disease produced by infection depends upon a number of factors—such as the previous history of streptococcal infection, the portal of entry of the infection and, to a certain extent, the characteristics of the particular strain of organism.

"In many cases, the only distinction between septic sore throat and scarlet fever is the appearance of the rash, and there is ample evidence to indicate that the absence or presence of the rash is a phenomenon dependent upon the individual's ability to withstand the

so-called erythrogenic toxin of the hemolytic streptococcus. In other words, given two susceptible individuals exposed to the same hemolytic streptococcus, one person, because he is immune to the rash-producing mechanism, will have a sore throat without a rash, while the other person, non-immune to this rash-producing toxin, will have scarlet fever. To have different regulations for persons suffering from the same disease, either with or without rash, has for a considerable length of time been considered inconsistent.

"The ineffectiveness of former quarantine measures was a second reason for the Board's decision. The age-old isolation measures, drastic as they were, had little or no effect on the incidence of streptococcal disease in general throughout the city. Moreover, from 1900 to the present there were different periods of isolation; yet there does not seem to be any close correlation between strict or liberal control of cases and the incidence of the disease. It seemed wiser, therefore, to put all streptococcal throat infections into one category with the same restrictive measures applying to all of them.

The majority of streptococcal throat infections, including scarlet fever, run their course in a week, and the hemolytic streptococcus responsible for the disease disappears in many cases or is reduced in numbers very considerably as soon as clinical recovery occurs. Since there are probably many more carriers of the hemolytic streptococci responsible for streptococcal throat infections including scarlet fever in the general population than in recovered cases, it was an undue hardship to require the strict isolation of convalescent streptococcal sore throat patients and scarlet fever convalescents until they were bacteriologically non-infectious, while allowing other carriers complete freedom of action.

"The statement is occasionally made that complications of scarlet fever often do not set in until the second week, and that consequently, cases should be isolated for at least two weeks. It is to be noted, therefore, that according to the Sanitary Code, cases of scarlet fever are isolated until recovery, but for a period

not less than one week. Complications following sore throat without a rash also frequently occur in the second week. Formerly such cases were not isolated.

"A third reason for modifying the restrictions on scarlet fever was the experience which New York City shared with most of the United States and, in fact, with a great part of the world. Scarlet fever has become increasingly benign. It apparently reached a peak of severity during the last half of the nineteenth century and, since about 1875, has steadily become less severe. Available morbidity and mortality rates show a decrease in the case fatality rate of approximately 95 per cent from the earliest recorded rates to those of the present. This decline, however, has not been uniform, the northern states and urban areas showing more marked decreases than the southern states and rural areas. There seems to be no obvious explanation of this trend, but in the United States at the present time, there is no doubt that we are in a very mild phase of the cycle of the disease."

IRON LUNG The National Foundation for Infantile Paralysis has recently issued a booklet giving the location and owners of all Respirators located in the United States. In North Carolina these Respirators and their owners are located as follows:

Asheboro (Randolph) Asheboro Kiwanis Club.

Asheville (Buncombe) St. Joseph's Hospital.

Burlington (Alamance) Burlington Kiwanis.

Charlotte (Mecklenburg) Charlotte Memorial (2) (1 owned by American Legion and 1 owned by Catawba County Chapter of the National Foundation.)

Durham (Durham) Camp Butner (Owned by U. S. Army.)

Elkin (Surry) Elkin Emergency Squad.

Fayetteville (Cumberland) County Health Department, Fort Bragg Regional Hospital (Owned by U. S. Army.)

Greensboro (Guilford) Wesley Long Hospital (Owned by American Legion.)

Hickory (Catawba) Catawba County Chap-

ter of the National Foundation.

High Point (Guilford) Fire Department (Owned by Rotary Club.)

Lenoir (Caldwell) Dysart Kendall Post, American Legion.

Salisbury (Rowan) Lowery Hospital, Rowan Memorial Hospital.

Swannanoa (Buncombe) Moore General Hospital (Owned by U. S. Army.)

Thomasville (Davidson) City Memorial Hospital.

Wilmington (New Hanover) James Walker Memorial Hospital.

REPORT TO THE PEOPLE

The Lenoir County Health Department has just issued their annual report for the year, 1944, in an attractive mimeographed booklet "The House of Health." It tells the people of Lenoir County about the activities of their Health Department. It gives not only statistical information but clever illustrations and a short but imaginative narrative which compares the activities to the rooms of a house. The foreword headed "The Contract" reads as follows:

"We, the personnel of the Lenoir County Health Department, have contracted with the citizens of Lenoir County to build a House of Health in which shall be promoted and safe-guarded the total health of every resident and visitor within the said county.

We propose to continue and expand our activities in accordance with the specifications set forth in the following pages. In the main, these specifications indicate the progress made in building this House of Health during the calendar year 1944, and therefore constitute our Annual Report. We propose during the coming year to enlarge the several rooms of the House as rapidly as possible. The last page suggests some plans for remodeling which we expect to undertake during the coming year. In executing this contract, we can proceed no further than the officials and the people of Lenoir County wish us to do, but the cooperation which has been given to us during the past year has been such as to encourage us in our labors."

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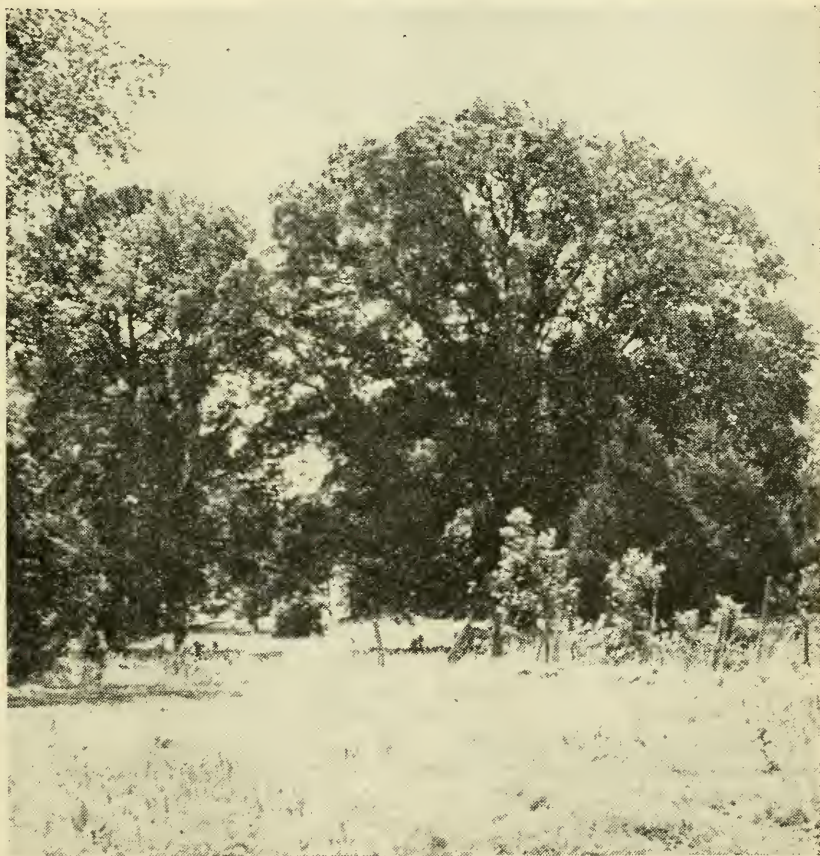
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 JOHN J. WRIGHT, M.D., Director, Field Epidemiological Study of Syphilis, Chapel Hill.

FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

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The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

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monthly letters.)	and 12 months; 1 year to 19 months; 19
The Expectant Mother.	months to 2 years.
Breast Feeding.	Diet List: 9 to 12 months; 12 to 15 months;
Infant Care. The Prevention of	15 to 24 months; 2 to 3 years; 3 to 6
Infantile Diarrhea.	years.
Table of Heights and Weights.	Instruction for North Carolina Midwives.

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There's Something For All Of Us Here

By

ALINE CANNON SMITH*

Junior High School Teacher, Roanoke Rapids

IN the autumn, when I return to the classroom, I hope that my attitude and work will show evidence of a re-awakening and greater realization of the importance of health education to our school children of North Carolina. As the results of this renewed interest in health, gained here at this Child Health Conference, I shall view the child as a whole rather than place so much emphasis on his intellectual or scholastic capacities which heretofore have been all important in our classrooms.

My first aim as a teacher will be to create a happy, wholesome atmosphere in my classroom. Rather than have as my aim to cover a certain number of pages in a mathematics or an English book that first week, I shall pay close attention to the many "little things" but after all the most important factors in the life of a child. Is each child comfortably seated in a suitable desk? Am I watching my pupils carefully in order to detect a child straining his eyes to see the blackboard? Do I dare leave off an arithmetic example or a spelling list to spend that time stressing the importance of keeping teeth clean? Do I have time for a morning inspection to check on these essentials? Am I impressing my pupils with the fact that this pair of eyes and these permanent teeth are the only ones they will ever have? Have I detected that a certain boy or girl cannot hear well and am I being tolerant, patient, and helpful with him? Sometimes I have become so intent in presenting

subject matter to my class that I have become oblivious of a close, stifling room; that my pupils have neglected to remove heavy wraps; that the shades have not been adjusted to bring light into a dark room.

Here is my chance for having pupil participation which is necessary in developing health consciousness among them. Individual pupils or committees can be given the responsibility of checking the thermometer at designated times during the school day, reminding pupils of removing wraps and keeping them hanging in a proper place, keeping the fountains clean, adjusting shades, keeping the toilets supplied with soap and paper towels, and ventilating the room.

After attending to the comforts of my pupils in the classroom, I want to begin at once studying the health records of each child. I realize more than ever the value of these records. They are not that extra burden placed upon a teacher just to give her something to do. They are kept for a purpose, and if used properly, they will prove to be most beneficial in my understanding the child.

During the first month of school I hope to visit every parent of my pupils. Nothing can take the place of a home visit, If I go to visit these parents with an attitude of interest and

*Mrs. Smith was a member of the Child Health Conference which was held at the Woman's College, Greensboro, June 7 to July 20, 1945. This article contains the substance of a talk given by her at the end of the course to the other members of the Conference.

helpfulness, I am positive that I shall be cordially received. What parent is there who is not interested in knowing whether his child is normal or not, and in case he is not, what can be done about it? We teachers can and must find the time for home visiting if we hope to attain success in our school room.

Not only should we visit our parents but we should also invite parents to visit the school—not just for one special day when we clean up the school room, dress ourselves up, and wear our best smile, but invite them to come often. Parents should accompany their children from class to class in order to see what they are doing in the physical education, home economics, and other classes. They should visit the lunchroom, health clubs, and observe just what the children participate in to insure better health. Frequent contacts between home and school will prove profitable in many ways.

In the future, I pledge my support and help to the beginning teacher. She usually works hard her first year in an effort to cover the required material in her subject. Possibly I can help her in pointing out the importance of records, of home visiting, of daily inspection, and being ever watchful for health factors in her classroom. Probably I can make her see that satisfaction can come from attending to the welfare of her forty pupils as well as it comes from seeing intellectual development.

I want to see more emphasis placed on health clubs in my school. I shall encourage pupils to participate in 4-H Clubs, first aid and home economic clubs. Chapel programs need to be centered around health topics, and the Parent Teachers Association can be an excellent group through which to promote health in a community. In order to maintain interest within a Parent Teacher Association, programs must be well planned. In my school during the past year I saw an idea most effectively carried out. The home economics department sponsored a nutrition program for the primary and elementary Parent Teachers Association. Talks, demonstrations, and copies of recipes were given the parents. The food

was brought in so that it could be seen as the talk was given, and later the various plates were presented to the different parents who had drawn the lucky numbers.

I am in favor of every school building having a well-equipped, comfortable first aid room. This will afford a place for a child with a communicable disease to be placed until he can be removed from school. We teachers can use our influence in buying the equipment for such a place. On several occasions throughout the year we may be given the opportunity to offer suggestions about the spending of certain funds. I can think of no better way to use this money wisely than to purchase some essentials that will be an aid in our health program.

In planning our school curriculum and in helping to carry it out, I want to cooperate with every person from the superintendent to the janitor in a health program. Regardless of what subject I teach, I shall feel it my duty to teach health and not leave it to the physical education teacher, or the nurse, or the home economics teacher. Here at our health conference we have seen that we can work in groups and really get somewhere. This spirit of cooperation and all driving together towards a definite goal must carry over to our individual schools. Parents, pupils, and teachers, with the willing assistance of our board of health must put up a united front in this continuous fight for better health. I shall do my bit regardless of how small my assignment may be—

"We all can't be captain;
We've got to be crew.
There's something for all of us here:
There's big work to do;
There's lesser to do,
And the task we must do is the near."

Follow all instruction sheets accompanying home canning equipment, advises the National Safety Council. New equipment, either wartime substitutes or improvements over old equipment, may necessitate a change in the home canning procedure.

School-Health Education In Cleveland County

By

LAURA CORNWELL

Principal Marion Elementary School, Shelby

WHAT effect has the School-Health Coordinating Service had upon the improvement of school-health teaching in Cleveland County? This question arose six months after members of the Service had left our county, after close observation had been made of the health work in the Shelby City Schools, after a number of county teachers had been questioned about their health program, and after a general survey had been made of recent school health work in the schools from the offices of the county superintendent of education and of the county health department. The finding of the answer to the above question was approached from five different directions; viz., (1) correction of defects, (2) instruction in health education, (3) physical education, (4) sanitation, and (5) nutrition.

Correction of Defects

Evidence that interest has been greatly quickened in this phase of health work is that a number of children have had glasses fitted, tonsils removed, flat feet examined, and dental work done. The development of a greater health consciousness in the community has stimulated parents to have physical defects of their children corrected. The exact amount of remedial work done cannot be accurately measured because of the increase from month to month.

The screening of pupils for the purpose of finding the children who need special corrections has made teachers feel that they have received invaluable help.

Health Instruction

Through the introduction of new methods and more practical procedures in classroom work, health instruction has been made more meaningful. There was a time in the primary grades when the making of posters and the telling of stories illustrating the necessity of

proper rest and sleep were thought sufficient methods for teaching these health habits. Now, in many of the primary grades, children have resting pads in the school rooms upon which they go to sleep after the lunch hour. In all of the county schools and a few of the city schools, the noon hour has been considerably shortened so that all pupils may have a quiet period immediately after lunch.

Hand washing before meals is becoming more of a habit with pupils. Methods of hand washing in schools have also improved. Proper ventilation, lighting, and heating are becoming problems of classroom study for older pupils.

Another phase of health instruction that has been practiced for some time but which seems to have improved recently is the correlation of health teaching with other subjects. While studying a unit on farm life, opportunities were offered for studying foods, such as milk and vegetables. As samples of these foods were served on class, other health lessons were taught on cleanliness in eating and handling foods.

In speaking of the improvement of school-health teaching, a principal in the county said, "The School-Health Coordinating Service offered the best course for in-service training of teachers that has ever been offered in our county."

Physical Education

For some time the majority of school children in our county have participated daily in a program of "Directed physical education;" however, in a number of instances this program has not met standards set up by schools and health authorities. Why has this phase of health education failed to meet requirements? The answer sometimes has been the lack of trained personnel, sometimes the lack of

facilities; but in the main it has been failure on the part of teachers and the people in the community to realize the importance of physical education in developing the "whole child." Some parents have said, "Children are sent to school to study their books and not to play." For the above reasons, physical education has often been scheduled at the wrong hour of the day, usually at the noon hour or recess periods. Now physical education finds its proper place along with other subjects in the curriculum.

Many times individuals in the community and the Parent-Teacher Associations have made donations for better playground facilities. More children are enjoying the play period and teachers and parents are more conscious of the opportunities offered during a physical education period for developing the "whole child."

Sanitation

All progressive school people have recognized the importance of a desirable sanitary environment for the school child. Proper sanitation, however, has become a real problem. Some janitors have gone into war work, while others who would do janitorial work have demanded such high wages that school administrators could not hire them. Often, too, school patrons have not been aware of the sanitary needs in the schools.

Recently school personnel in some schools have acted upon information revealed by the Service in organizing school children into clean-up groups. These children have in many respects done a better job of cleaning than the regular janitors did. School patrons in one school heard of the work of the children and bought extra supplies for use in the daily clean-up program.

In a number of schools new lighting fixtures have either been installed or ordered.

Because of a lack of school funds and improper and cheaply built school buildings, the suggestions made by the Service could not be carried out in many communities.

Nutrition

Many pupils in school are "hungry" because of poor eating habits, sometimes re-

sulting from economic problems, a lack of proper training on the part of parents and teachers in regard to the kind and amount of foods essential for health and growth, and because of the difficulty of properly diagnosing symptoms of malnutrition. These "hungry" pupils may be underweight, little if any underweight, or even overweight. Serious health, school, and community problems may develop from this "hungry group." A child who is improperly fed is not only sick and unhappy himself, but may be a "problem-maker" for others. A so-called bad boy may be just hungry.

A few symptoms of malnutrition are (1) nervousness and irritability, (2) laziness, (3) backwardness in school, (4) bad posture, (5) decayed teeth, (6) lack of appetite, (7) aversion to normal play.

A nine year old boy, whom I shall call Tommy Brown, had all of the above symptoms. He was also a problem for the attendance officer, because he was often absent from school and nearly always tardy. Because of working parents, the greater part of Tommy's diet consisted of candy, cookies, or sandwiches bought at the corner grocery. However, he would not eat at all frequently, because his teeth were sore. Tommy's teacher had realized that there was something badly wrong with him and that not very much had been done to help him. When health activities were being stressed after a visit of the Service to the school, Tommy was taken to the dentist by his teacher. He had two bad teeth extracted and several treated. He was given free lunch in the school lunch room, and an effort was made to get him to eat the right foods. When school closed, Tommy was developing better attitudes toward the proper foods, was regularly eating a good lunch each day in the lunch room, and was apparently happier and a more regular attendant at school.

After the nutritionist had talked with the lunch-room supervisors and school principals, an effort was made to serve a greater variety of the proper foods. Even though information concerning approved menus had been on hand,

these printed suggestions were not so full of meaning as the demonstrations of the effect which food has on health and growth.

One mother who is an intelligent and well read person stated that after hearing the nutritionist talk about the nutritient values of certain foods she had changed practically all her daily menus.

To encourage pupils in eating the right foods, a number of teachers had vegetable, fruit, milk, and whole wheat bread parties. To further stimulate right eating habits, teachers in many schools kept weight charts to register the child's growth from month to month. In order that they could do this, the county superintendent placed new scales in

their schools for weighing the pupils.

A question that might now be asked is: Will the school-health program in our county be maintained with the same interest and effectiveness? A partial answer to this question is found in the fact that the County Health Department has attempted to get a "Local Coordinator" to work in the schools and in the interest shown in the school-health program planned by the North Carolina Education Association Council. Last year the Council took for its yearly theme the subject of health, and at the last meeting of the Council plans were discussed for making the special school health program in the county permanent.

Editor's Note

It is the policy of the Health Bulletin to devote the September number to articles concerning health work in schools, and this issue offers several papers prepared by the staff of the School-Health Coordinating Service and others.

The School-Health Coordinating Service was set up in 1939 by the State Department of Public Instruction and the State Board of Health as a joint organization of the two Departments. This group carries out In-Service Training in county and city schools during the school year and conducts Child Health Conferences during the summer months at Teacher Colleges. During the past school year In-Service Training was carried out in Polk, Rutherford, Cleveland, Lincoln and Catawba counties. Two of the articles are from those counties.

In In-Service Training the subjects dealt with are: communicable diseases, screening methods, health services, health instruction, sanitation, nutrition, and physical education. Articles have appeared in the Bulletin on these subjects during the past two years.

As of June 30, 1945 the field staff was as follows:

Dr. W. P. Jacocks, Coordinator

Mr. Charles E. Spencer, Adviser in Health

and Physical Education

Miss Ruth O. Moore, Adviser in Health and Physical Education

Miss Pearl Weaver, Public Health Nurse

Mrs. Roscoe Cain, Public Health Nurse

Miss Eunice B. Outlaw, Nutritionist

Miss Hannah Turnage, Health Educationist

Dr. Walter J. Hughes, Physician

Mrs. Eugenia Cordice, Public Health Nurse

Miss Jennie Douglass, Health Educationist

Miss Bessie V. Beale, Nutritionist

The last named four are Negroes who work in Negro schools.

The number of farm dwellers killed in accidents yearly — around 17,000 — is the equivalent of "wiping out" the entire population of any one of the following cities: Iowa City, Ia., Wilmette, Ill., Coffeyville, Kan., West Springfield, Mass., Biloxi, Miss., or Aberdeen, S. D., according to the National Safety Council.

The U. S. Department of Agriculture estimates that out of the more than 6,500,000 farms in the country, one in each 37 had a disastrous experience with fires in the five-year period from 1936 to 1940.

Health Instruction In Schools

By

HANNAH TURNAGE

Health Educator, School-Health Coordinating Service

"I now realize that health knowledge without health practice is useless."

"It made me check myself to see if I were using the best methods in the most important subject."

"Helped me to become more health conscious and to put more practical things into my health teaching."

"That health is a very important subject to get across to the children."

These comments and many others were made by teachers during the past school year in counties in which the School-Health Coordinating Service carried out its activities. In nearly all cases the teachers readily acknowledged that although they thought health was important they had never done too much about it. As the work progressed it was evident that their interest in health teaching increased. Their requests for materials and suggestions indicated a determination to make health teaching more vital and functional.

The above remarks might be contrasted with some made by teachers on "first visits" to schools. One seventh grade had no health classes because "we just haven't the textbooks." And another sixth grade teacher said, "we want to run through and finish this health book so we can take up something else." Another seventh grade welcomed the health educator with, "Come right in. We are having our health lesson." The health lesson consisted of a reading lesson about muscles.

In most cases early observation showed that teachers were more interested in the accumulation of health facts than in the development of favorable attitudes and habits. When teachers became aware of the value of practical health teaching their techniques were changed. The teaching then helped Johnny to develop good habits and favorable attitudes of sleeping, eating, cleanliness, playing, rather

than just learning that he has 206 bones and that some of the names are scapula, femur and ulna.

The need for more vital and functional health instruction has been clearly shown. The war has shaken us out of our complacency. The part the school is to play is being determined now as the efforts for an improved health program are redoubled.

Health education is "the sum of all experiences which favorably influence habits and attitudes, and knowledge relating to individual, community and racial health." School health education "is that part of health education that takes place in school or through efforts organized and conducted by school personnel." Health education in the school takes place through the three phases of the school health program — namely, healthful school environment, health services, and health instruction.

It is believed that the greatest contribution schools can make to the health of the nation is through health instruction. Surely the importance of it cannot be over emphasized.

In viewing the type of health education in schools, the reader might be interested in looking back over the health classes he or she has attended. Were they interesting? Was there any activity to stimulate the pupils interest? Did your health classes enable you to practice any health habits? Did it consist primarily of telling you what to do and what not to do? Were you told to do some things because they "were good for you?" Was the health teaching functional? Were health classes omitted if time were limited? Did you have health classes only on rainy days when you could not go out to play? Were the health classes placed haphazardly in the schedule and when convenient omitted entirely? Was the teaching negative or positive—against bad health or for good health?

More than ever there is the need for the teaching of optimum health. It is not easy to do. The same psychology has to be dealt with as that shown by the kitten which has a string nearby and makes no attempt to hold it until it is being snatched away. So long as one feels good, he thinks little of good health. Since boys and girls of school age are also in the "best health" stage, their interest in health must be developed. Telling boys and girls to do something or not to do something because it is good or bad for them just doesn't work. They must be shown the values and in so far as possible, establish habits of good health. Certainly a favorable attitude towards good health practices can be developed.

Health instruction varies with different grade levels. The teacher who requested information concerning "unit to be taught in first, second, and third grades" perhaps considered subject matter important in the primary grades. Daily health habits take first place. Any activity which gives the child the opportunity to practice these at school and in the classroom is very necessary. Handwashing, rest periods, safety practices, tooth-brushing are examples of such practices.

Contrary to popular opinion, up-to-date equipment is not always essential to the practice of health habits. Many ingenious devices worked out by teachers and pupils have been observed in the classroom. In one school eighth grade boys and girls took an old abandoned water cooler and converted it for handwashing in the classroom; in another the first graders rested on little cots which were made by a school organization.

Following the primary grades, the boys and girls of the upper elementary grades are interested in the reasons for certain health practices. Simple explanations are necessary in their health teaching. It is also important that certain health practices already mentioned be continued throughout these grades. It is in these grades that boys and girls begin to get interested in school health.

Club activities can be utilized for excellent teaching in personal, school, and community

health. In a sixth grade where certain health practices were poor, the teacher did "a lot of talking against the boys and girls going to the nearby store for cakes and soda pops for lunch." This practice had been going on for about three months when the sixth graders formed a health club as a part of their health class. They made their own rules and regulations for membership which included no lunch visits to the store. Other health practices were improved because the boys and girls saw the need for them and in the democratic way worked out their own plans. As the teacher explained later, "I have been able to teach health to these boys and girls by club work in a way that had never been possible before." It might be added that club work is more effective in some groups than in others; the enthusiasm of the teacher can be the determining factor in such activities.

As the high school level is reached subject matter generally occupies the chief place in the program. This is true of health teaching. However, there is an increasing amount of practical health teaching being done in junior and senior high schools. This comes about only as the teacher begins to think of the health of the child, school, and community, rather than the amount of information the child acquires.

Health classes in high school are often "wished off" on any teacher who has a free period. This, together with indefinite scheduling and elimination of the class when convenient, has often caused the pupils to feel that health teaching is unimportant. Add this to the subject matter methods often used in teaching and it readily follows that health instruction deserves an important place in teacher training programs both in In-Service and Pre-Service.

A high school health program can often grow into a community program. It spreads throughout the school as well as the community. For example, a ninth grade health class had tested the lighting in the classroom. Finding it inadequate they had made several adjustments. In many cases these simple adjustments were easily made but little or no

attention had been given to them prior to the project carried on by the health class. Later, this same class tested lighting in the other classrooms of that building. Some rooms needed shades, others needed a change in seating arrangement, while still others needed larger light bulbs. The Parent Teacher Association was included in the project and a part of its contribution went into providing proper shades for those rooms in which "glare" was a problem. The plan spread to the homes of the community where further testing, chart-making and improvements followed.

The basic and social science classes offer excellent opportunity for health teaching units. There is great need for faculty committees to plan the distribution of health teaching so as not to give the child an overdose of first aid while neglecting the community health or the reverse. Such planning will also provide more time for health units which are often eliminated because of lack of time.

Although this article deals with health instruction in schools perhaps it is appropriate to say that health teaching cannot end in the schools. Every opportunity that presents itself in which adults can be taught must be used. And in spite of this there will always be parents who fail to encourage their children in doing those things learned at school. Such was evident when a class of third graders had proudly shown that each member had stopped drinking coffee because the class had decided that milk was better for boys and girls. And then one day one boy drank coffee because "my mama said drink a little coffee to warm me up before going out in the rain." Through

Parent Teacher Association groups and other community agencies it is possible to carry a great deal of health work from the schools to the home. By following this method the health of the nation can be improved in the most effective way.

In summarizing, it is to be noted that teachers who have been closely associated with health work in the counties (eg. county health departments, health educationists, nutritionists) are becoming more concerned with practical health instruction. As this type of health instruction increases better health habits will follow.

There is great need for teaching optimum health. To teach health to healthy boys and girls is difficult. For this reason every opportunity to capitalize on their interests and needs should be utilized.

Much ingenuity can be used in making possible the practice of health habits in the classroom. Oftentimes the activities involved in making such practices possible provide the best teaching experiences.

Health instruction varies at the different grade levels. In the primary grades the establishment of health habits is of paramount importance. In the upper elementary grades more health information is necessary. With high schools, where health instruction has been given less emphasis, there is need for increased health activities.

And finally, health teaching must be made available to adults through various methods and organizations until that optimum health which "makes you glad you are living" is reached for our Nation.

Detecting Health Needs Of Pupils

By

ANNE ARNOLD CAIN*, R.N.

Public Health Nurse, School-Health Coordinating Service

NO teacher should be satisfied with her preparation for that all important role of classroom teacher unless that preparation has given her special information pertaining to health guidance and health instruction which may be utilized in her daily teaching. The necessity for such knowledge is evident when it is understood that one of the major responsibilities of every teacher is to maintain normal health of her pupils and to enlighten them regarding good health practices.

The School-Health Coordinating Service is endeavoring to give teachers this necessary preparation through In-Service Training and Summer Conferences. This article is limited to a few suggestions which teachers might carry out in their classrooms during the year with the aid of the public health nurse.

The needs of the pupils should be the first task of the teacher if she is to provide a sound program of guidance. Such needs may be discovered through screening, home visits, study of the school health card, special examinations, and teacher-nurse conferences. A planned teacher-nurse conference before the opening date of school or soon thereafter with respect to screening and other subjects should give the teacher greater assurance in her judgment. In preparation for the conference a definite time and place should be set aside for the meeting. Both nurse and teacher should have their records in order for reference and all problems which they wish to discuss should be listed in an orderly arrangement. They should give to the conference their undivided attention. This is the main necessity for the conference being held outside the classroom during class hours.

SCREENING

The process of screening for physical defects is accomplished only through keen observation. A highly significant method of screening with respect to the control of com-

municable diseases is the daily inspection. The method of the daily observation may be formal or informal but the important fact to remember is that it should be done by the teacher and not the pupils. The informal method is apt to be more effective as it becomes a continuous process by which the teacher studies the individual child. If the child is inattentive, why? Could it be that his vision is affected or his hearing? If he is having difficulty hearing or seeing, what effect is this going to have on his general behavior? If he is handicapped, what is the cause and how may the defect be remedied? Is he exhibiting the initial stages of some communicable disease? Through such observation and reasoning the teacher will learn the needs of her pupils and find those who require special attention.

A method of screening which may be used as a good teaching device involves such tasks as measuring, weighing, vision testing with the Snellen chart and audiometric group testing.

Weighing and Measuring. Weighing and measuring should be thoroughly understood and correctly used to be of educational value. It is more accurate to study individual and racial differences in determining overweight and underweight than adhering strictly to a standard weight and height chart. Weighing and measuring should be conducted under the same conditions. If possible the same day of the week and the same time of day should be set aside for this procedure. A measuring device, attached at the back of some scales, if properly handled, is an accurate means for recording the height. If this method is not available two yardsticks tacked to the wall will give a sturdy background. The indiv-

*M. Pearl Weaver, R.N., Public Health Nurse, School-Health Coordinating Service, collaborated in the preparation of this article.

idual should remove the shoes and stand erect with heels, buttocks, shoulders, and back of head touching the yardstick. Place a light wooden block against the yardstick, above the head, and move the block slowly downward until it comes to rest on the top of the head. Ask the individual to move; observe the height and record it. A normal child will show a steady gain in height and weight.

Vision. Daily inspection of the child will bring to the attention of the teacher physical changes that may occur about the eyes or behavior symptoms suggestive of disorders in visual acuity. The Snellen test is not used to differentiate between eye conditions but it serves as a guide for the teacher in eliciting deficiencies which may be referred to the specialists for correction.

Frequent headaches, inflamed or crusted eyelids, squinting, failure to respond when the lesson is being conducted from the blackboard, or inattention are suggestive of abnormal visual acuity, and they should be detected early by the conscientious teacher. Careful attention should be given to the seating, the lighting, blackboard work, and various other school activities for this group. An important step in aiding the child with a visual defect is to provide him with suitable glasses, but each case requires special attention and should be referred to the physician for examination and advice.

Hearing. In the screening process no teacher should overlook the possibility of hard-of-hearing pupils in her room. Some of the physical clues which may be related to a hearing deficiency are: earaches; discharging ears; keeping cotton in the ears; ringing or buzzing sounds when all is quiet; speech defects, especially s, z, t, sh, ch and k; absence from school on account of ear troubles, and mouth breathing.

Some of the behavior clues relating to a hearing deficiency are: making repeated mistakes in carrying out instructions; observing others before beginning work; frequent requests for repetition of spelling and dictation; failure to participate in class discussion; turning one ear to the speaker or leaning for-

ward; showing tension, strain or confusion when listening, and a baffled, bewildered expression.

Some scholastic clues related to this same handicap are: repeating grades; not achieving maximum intellectual possibilities; an excellence in manual activities, and poor work in verbal studies.

There are several screening methods with a fairly good degree of accuracy that may be conducted by the teacher in discovering the hard-of-hearing child. The watch tick test is simple and easy to give but it requires time since only one child may be tested at the time. A procedure for giving the test would be as follows: select a loud ticking watch, select a quiet room, remove any other watches from the individual being tested and the individual conducting the test, stand the child sideways to the examiner, place a card in front of the ear being tested (the other ear need not be covered), place the watch close to the ear, withdraw gradually until the child cannot hear it; then reverse the process. A loud ticking watch should be heard at a distance of four feet. In recording the test, the denominator is the standard 48 inches. The numerator is the distance at which the watch is heard. If an individual can hear the watch tick at a distance of four feet in both ears the reading would be as follows: RH 48/48, LH 48/48. If the watch cannot be heard by either ear the reading would be RH 0/48, LH 0/48.

The audiometer is a mechanical device for measuring hearing loss; it is more accurate than the watch-tick or whisper test. The audiometer is like a phonograph in appearance using special records of simple numbers or words and having a telephone apparatus such that the numbers on the record are picked up electrically and conveyed to as many as 40 children at one time. By the use of the audiometer it is possible to transmit sounds to the listener's ear with a high degree of uniformity. This is also a time saving device since 40 children may be tested in 20 to 35 minutes. This instrument only records loss of hearing and indicates that he should

be seen by a specialist and receive the attention which he recommends.

The regular classroom teacher may help the hard-of-hearing child by: giving him a seat near the teacher; standing so the light should fall on her face giving the child a full view of her especially when talking; enunciating clearly and distinctly; allowing the child to see the faces of the other children when they talk; encouraging him to take a course in lip reading; knowing something of lip reading herself; giving him sympathetic understanding; helping him develop a self-reliance and poise that will make it possible for him to become an accepted member of a normal group; recognizing this handicap but not surrendering to it.

Communicable Diseases. Since children are required by law to attend school, the responsibility of protecting the child against preventable diseases becomes a responsibility of the school. Such serious defects as loss of hearing, loss in visual acuity and involvement of the vital organs may be attributed directly to one or more of the communicable diseases. Because of the close relationship between teacher and pupil, the teacher has a wonderful opportunity to detect early symptoms indicative of the onset of an illness.

Symptoms do not develop at a specified time and there is no assurance that a child who appeared perfectly normal at nine o'clock in the morning will be in the same condition at three o'clock in the afternoon. Such symptoms as coughing, hoarseness, running nose, sore throat, watery eyes, skin rash, pain, fever, nausea, vomiting, diarrhea, pallor, lassitude, or irritability may indicate the onset

of a communicable disease. When these symptoms are noted by the teacher the child should be separated from the group and provisions made for sending him home or providing adequate care for him. If children with common colds could be excluded from the group at the very onset of the attack a most important step in the control of communicable diseases would be in action. This would involve the cooperation of parents, teachers, and school administrators. Parents have the responsibility of keeping their child at home when the child is sick. By so doing they would be protecting the health of their own child and that of others who are attending the school. The plan of urging perfect attendance encourages children to go to school when they are ill, and thus creates a stumbling block in the way of controlling communicable diseases.

Some of the control measures which should be shared by the classroom teacher are: recognizing the symptoms of illness, excluding the sick child from the room or school, readmission after illness, exclusion of exposed persons, checking on immunizations, and teaching proper habits that would prevent wide spread infection.

A few of the measures in which teacher and nurse can collaborate with benefit to the health of the school child have been mentioned. In order to guide the pupils in her group the classroom teacher should: study the needs of the group, visit the parents of her pupils, be accurate in health guidance, watch for changes in the pupils, confer with the health personnel, be aware of her community resources and practice what she teaches.

School-Health Service in the Rutherford-Polk District

By

DR. B. E. WASHBURN

Health Officer, Rutherford-Polk District

DURING October and November, 1944, the Rutherford-Polk Health District had the assistance of the School-Health Coordinating Service in making more effective the health program in the schools of the two counties. The personnel of this service consisting of the Coordinator and nine assistants, held preliminary conferences with the principals and later with the teachers of each county. At these meetings each member of the staff explained in turn his part of the program and gave details of what he or she planned to do when each individual school was visited. The county schools were then divided into five groups of about 50 teachers each who met at a central school for the lectures and group conferences. The School-Health Service is sponsored and financed by the State Department of Education and the State Board of Health; this fact, aside from their interest in the subjects considered, made the teachers and health workers ready to cooperate with the Staff.

The group conferences were held in October, there being eight meetings for each group. The subjects discussed were Health Service, Health Instruction, Healthful School Living, Nutrition, and Physical Education. While these conferences were in progress and afterwards the staff visited individual schools and conferred with principals and teachers in regard to the subject matter of the conference discussions. All schools were visited once and some were visited several times. Also home visits were made with teachers, and the Staff took part in meetings of Parent-Teacher Associations and other civic clubs. Similar work was carried out in the colored schools by a special staff, under the direction of Dr. W. J. Hughes.

It is not possible in this short paper to re-

view in detail all phases of the work carried out by the School-Health Service in our District and the beneficial results which have been derived from it, but I should like to tell of the division concerned with Health-Service in the Schools. After a preliminary lecture at the group conferences, in her visits to the schools Miss Weaver gave practical demonstrations in the examination of pupils. The teachers were shown what information is needed, and how to get it, concerning a child's height, weight, eyes, ears, throat, and other items on his health record card; and, in particular, the signs of anemia, malnutrition, orthopedic defects, mental habits, and other things which may handicap him in his school work. The best method of recording and using the results of each pupil's examination was demonstrated, so that the health officer and nurses, when they later visited the school, could follow-up the teacher's screening and select children in need of a medical examination. The teachers were much interested in Miss Weaver's talks and demonstrations and, as a result, the screening of the pupils for health defects was more thorough than in past years. At present, so far as is known, there is a physical and health record of every child in the schools of the two counties.

More accurate screening by the teachers enabled the health officer to make more thorough medical examinations of pupils having defects and this, in turn, has brought about the correction of more defects. Another item; at the completion of the School Health Program, the School-Health Coordinating Service placed at the disposal of the Health Department in the two counties the sum of \$850 to be used in the correction of defects of children who are unable to pay specialists a part or

all of the charges for their treatment. This sum has been supplemented by more than an additional \$850 from local sources and up to the end of our financial year (June 30, 1945) there had been 224 children provided with tonsil operations, 124 school children examined and fitted with glasses, and treatment given for a number of less common defects. Also, an outbreak of Trench Mouth of alarming proportions in one of the larger schools was successfully controlled. And, at present, more than half of the \$1700 remains to be spent.

Dr. Jacocks, accompanied by the Sanitary Officer of the District Health Department, visited every white school and many of the colored schools in Rutherford and Polk counties. An inspection of the school and grounds was made with the principal, and then each classroom was visited. The questions of heating, lighting, ventilation, water supply, drinking fountains, toilets, lavatories, isolation room, and playgrounds were among the subjects studied in relation to each school. Also, close attention was given to lunch rooms at schools where these were in operation. The report made of each school has been useful in securing the improvement of many school facilities and, especially, in the making of neglected repairs. It is generally acknowledged that during the past year there has been remarkable improvement in school buildings and equipment, and there is no question about buildings and grounds being kept far cleaner than ever before. And as for lunch rooms, all but one white school and all the larger colored schools of the District cooperated with State and Federal agencies in operating lunch rooms during the spring of 1945. These have been inspected at regular intervals and, with but few exceptions, they have made

grades comparable with those attained by commercial cafes. And, it is pleasing to report, schools in each county have maintained Grade A lunch rooms.

In order to make permanent the interest created and the work organized by the School-Health Service, a fellowship for a year was provided for a teacher to study at the State University, with field work in other states. At the completion of her studies in September, Miss Carson will conduct a program of work similar to that already initiated in the District, with the object of bringing closer cooperation between the schools and the Health Department. The result should be improved conditions effecting the health of school children and the correction of defects which handicap pupils in their school work.

The improvement in school sanitation and the opening of school lunch rooms was given much impetus by the work of the School-Health Service. The interest in Nutrition, created by Miss Outlaw, among teachers and members of Parent-Teacher Associations was helpful in the organization of up-to-date lunch rooms. The inspection work, which is being kept up by the Health Department, has directed the attention of teachers and school authorities to the desirability of keeping the school buildings clean and in good repair. The inauguration of successful methods of screening, with financial aid, has resulted in the correction of defects which were handicapping a large number of pupils. The schools and the Health Department of the Rutherford-Polk District recognize and are grateful for the assistance given them by the School-Health Coordinating Service in the improvement of our schools and in the health of the pupils.

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Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

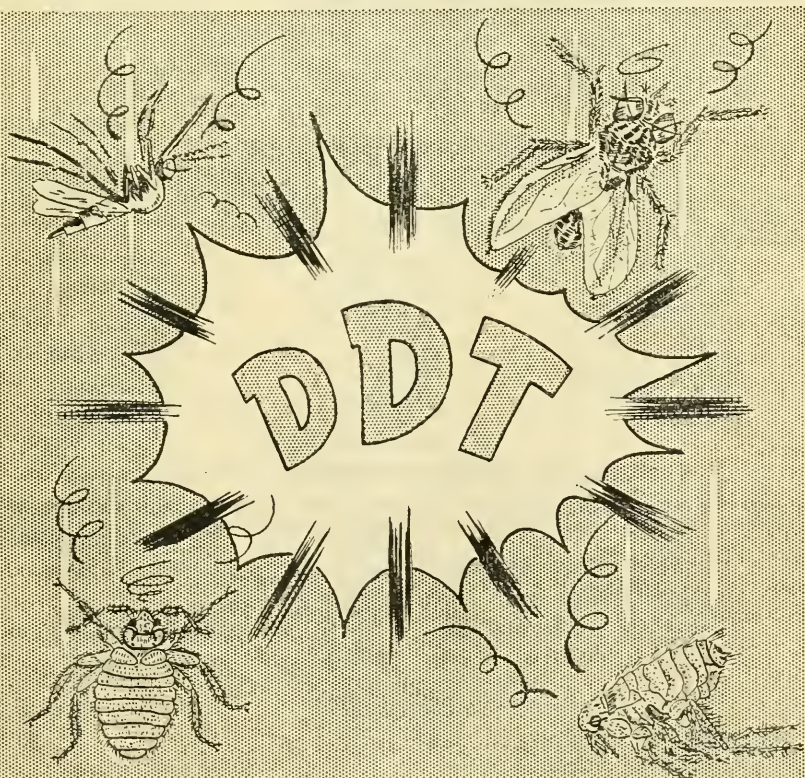
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DDT Handbook Issue

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Sanitary Privies
Appendicitis	Health Education	Scabies
Cancer	Hookworm Disease	Scarlet Fever
Constipation	Infantile Paralysis	Teeth
Chickenpox	Influenza	Tuberculosis
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Don't Spit Placards	Pediculosis	Vitamins
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Flies	Residential Sewage	Water Supplies
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SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters.)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother.	Diet List: 9 to 12 months; 12 to 15 months;
Breast Feeding.	15 to 24 months; 2 to 3 years; 3 to 6 years.
Infant Care. The Prevention of Infantile Diarrhea.	Instruction for North Carolina Midwives.
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Health Bulletin

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ARL V. REYNOLDS, M.D., State Health Officer

JOHN H. HAMILTON, M.D., Acting Editor

Highlights on DDT Spraying

DDT KILLS:

Mosquitoes, house flies, fleas, bedbugs, most cockroaches, and certain other undesirable insects.

EQUIPMENT:

Any good garden or crop pressure sprayer equipped with fan-spray nozzle. Nozzle may be purchased from:

Spraying Systems Co. 4021 West Lake St. Chicago 24, Illinois

Type $\frac{1}{4}$ T8002—Price \$1.80 each

MATERIALS:

FOR EMULSION SPRAY

DDT, Xylene, Triton, and Water

Concentrated Mix

	Summer	Winter
DDT	3 lbs.	1 lb.
Xylene	3 qts.	2 qts.
Triton	6 fl. oz.	3.2 fl. oz.

Makes 1.03 gal.

0.6 gal.

Approximate cost of ingredients—\$1.90

\$.75

Add 10 parts of water to summer concentrate and 5 parts of water to winter concentrate to form spray emulsion. This makes approximately a 3% solution. Do not add water until ready to use.

FOR 5% KEROSENE SPRAY

Mix 2 pounds of DDT powder with 5 gallons of kerosene. Ingredients should cost about 35 cents per gallon.

CAUTION:

The solvents used are highly inflammable. Put out all fires before spraying.

If concentrate gets on skin or clothes, wash it off immediately or change clothes.

Do not spray food, kitchen and dining room utensils, baby beds, toys, nor high chairs.

DO NOT PURCHASE DDT MIXTURES NOR SOLUTIONS UNLESS THE PER CENT OF DDT IS SHOWN ON THE CONTAINER.

Public Health Uses of DDT

By

CHARLES M. WHITE

State Director of Malaria Control

INTRODUCTORY

SO much has been written about DDT in newspapers and magazines, where the purpose seems to have been to stress the sensational aspects rather than give complete and correct information, that it is feared the public has a distorted and in some cases a fictitious comprehension of its potentialities. These publications have also served to give the product more free and unsolicited advertising than has ever been accorded any article placed before the public, even prior to its availability for general use. This has created an unprecedented demand, making it very easy for unscrupulous or unqualified producers and vendors to flood the markets with inferior products containing, or claimed to contain DDT, at excessive prices. For the last year, we have received numerous inquiries, such as: "Where can I get some?" "Will it kill rats?" "When can I buy it?" "What will it cost?" "If I put it on seed corn, will it keep the crows away?" "How will I know how to use it when it becomes available?" "Is it very poisonous?" "Do I have to keep the room air tight when applying it?" "How long will it last?" and many others. With so much interest manifested and the public's concept of its magic powers, it is feared that disappointments will be experienced by many people when it is found that DDT does not live up to their preconceived expectations. Its widespread use might also be curtailed by failure to achieve maximum benefits through improper application.

DDT is by far the best all-round insecticide ever developed. When properly compounded and applied, spectacular results can be obtained. It is believed that many insects of public health significance, as well as numerous obnoxious pests, can be controlled and in some instances completely exterminated by the correct use of DDT.

For the last year the North Carolina State Board of Health has been conducting experiments with DDT which have given very gratifying results. It has been used against houseflies in milk bottling houses at dairies, in cafes, in private homes, and other places. A large house-spraying program directed against malaria mosquitoes has been conducted in areas proven to be highly malarious by blood slide surveys. All that could be desired was achieved in these experiments as DDT proved to be sure death to flies and mosquitoes. Incidental benefits were also observed in the killing of bedbugs and roaches. Your State Board of Health wants to pass on to the public all of the information gained from these experiments, as well as reliable facts obtained from the writing of recognized authorities.

EFFECTS ON INSECTS

DDT is not an immediate repellent of insects. When flies or mosquitoes light on a surface that has been sprayed with it, they appear to experience no adverse reactions whatsoever at first, but remain calm and composed for a period varying from five minutes to nearly an hour, depending on the individual susceptibility of the particular insect. After this period, a highly nervous condition sets in. The legs begin to twitch and the insect flies from one place to another in an apparent nervous frenzy. If possible, it will usually escape and be seen no more. After a period ranging from fifteen minutes to three hours, it will fall to the floor, lie on its back, wave its legs aimlessly and manifest other frenzied contortions. Frequently after this, flight is resumed in an uncontrolled haphazard fashion. Precise tests run by us, involving the use of hundreds of flies show that death is certain, once these symptoms set in. When properly applied to the ceilings, walls, and screens of homes, DDT has been

known to kill flies and mosquitoes for as long as seven months. It can be relied on to remain entirely effective for at least three months. The slow action of DDT described above tends to make the observer think that no results are being obtained when it is used outside of screened-in homes. If a large number of insects breed in the immediate proximity, new arrivals will constantly replace those that have become effected and gone off to die. The absence of dead insects also creates the impression that none are being killed. This can be attributed to their inclination to escape the place of contact. This clearly illustrates that DDT is not a substitute for screens but is a very effective aid in controlling undesirable insects. If the interior of a well-screened house be sprayed correctly, all flies and mosquitoes that enter it will be down in three hours or less and dead after ten or fifteen hours. For all practical purposes they are dead when they are rendered incapable of flight.

Even though a total absence of mosquitoes cannot be achieved in a house without screens, good malaria control can be expected. When the malaria mosquito feeds on an occupant of the home, her abdomen becomes heavily loaded. Before flying off, she will almost invariably rest awhile. If she sits on a surface that has recently been sprayed with DDT, she will die before biting another person. Thus one of the most important links in the chain of malaria transmission is broken.

HISTORY

In 1874 a German chemist first synthesized DDT purely as an academic activity. At that time nothing was known of its insecticidal properties. In 1939 J. R. Geigy, of Basle, Switzerland, discovered that it would kill certain insects. It was not until 1942 that it was introduced into the United States. Since that time much experimental work with the material has been done by the United States Public Health Service and the U. S. Department of Agriculture. The N. C. State Board of Health has access to the findings made by the U. S. Public Health Service and will endeavor to make such information available

to the public from time to time as it is received. There will arise a number of questions regarding the value of DDT as a killing agent for insects which molest field crops, gardens, orchards, and other objects with no public health connection. The State Board of Health is not in a position to give information of this nature. It is suggested that your county agriculture agent be consulted.

MATERIALS

The government has now made DDT available for general use, and several products containing it have already appeared on the market. When first manufactured, DDT is in the form of a slightly lumpy powder which bears a resemblance to ordinary salt. In this form it is not suitable as an insecticide, but is mixed with other materials. When used in the dry state, it is mixed with some inert dust, such as a cheap form of talc. Before it can be applied as a spray, it must be mixed with some material in which it will dissolve.

DDT readily dissolves in kerosene oil. In spraying for mosquitoes, flies, and other insects, the army uses a five per cent solution of DDT in kerosene. This solution is easily obtained by dissolving two pounds of powdered DDT in five gallons of kerosene. When larger or smaller quantities are desired, this same ratio is maintained. Mixing can be done by any method which will agitate the liquid thoroughly after the powder has been added, such as stirring with a paddle, rocking in a barrel, or splashing in a churn. The time required for mixing varies with the temperature and quality of the powder. The mixing should be continued until the liquid becomes clear and contains no small particles in suspension. The kerosene spray is as effective as any devised for applying DDT, yet it has the objectionable quality of being a fire hazard for a longer period than that mixed with Xylene. It sometimes leaves a greasy residue, and its odor, which soon disappears, is objectionable to some people.

Xylene is the solvent most commonly used by the U. S. Public Health Service and the N. C. State Board of Health. Xylene will absorb a much greater amount of DDT than

would be used in a spray. This makes it possible to prepare concentrated solutions that can be stored in smaller containers and transported more easily. The desired volume is obtained by the addition of water. As the DDT-Xylene solution will not mix with water, a DDT-Xylene emulsion is used. Triton X-100 is the emulsifying agent most commonly used.

Since Xylene will dissolve more DDT at higher temperatures, a larger amount of DDT is used in the concentrates which will be sprayed during summer months. Separate formulas are used in mixing concentrates for storage at temperatures above and below 60° Fahrenheit. The basic formulas for the different concentrates are given below:

	Summer Formula	Winter Formula
DDT	3 lbs.	1 lb.
Xylene	3 qts.	2 qts.
Triton	6 fl. oz.	3.2 fl. oz.

Makes	1.03 gal.	0.6 gals.

The summer concentrate contains about 35% DDT and the winter concentrate approximately 20%. Before spraying, add 10 parts of water for every part of the summer concentrate and 5 parts of water to the winter concentrate to form the spray emulsion. This makes a solution of approximately 3% DDT.

Do not add the water until ready to use. The emulsion is a milky appearing liquid. When sprayed on a surface, the Xylene evaporates, leaving the desired residue of DDT crystals.

The DDT can be dissolved in the Xylene by the same method described for mixing it with kerosene oil.

COST OF MATERIALS

The State Board of Health has received quotations from several producers of DDT and ascertained the price which the U. S. Public Health Service pays for Xylene and Triton. The basic cost of the ingredients used in one gallon of the 5% kerosene solution is approximately 35 cents. Reports have reached us of purchases of this mixture being made in the state at prices as high as \$4.50 per gallon. The price, purchased in large quantities of the ingredients used in one gallon of the 35% concentrate, is approximately \$1.90. We have been informed by several health officers that they have received quotations running as high as \$10.00 per gallon.

Notwithstanding the fact that the producer and vendor are entitled to reasonable profit, these prices are exorbitant. If the basic ingredients be purchased and mixed by the user until the retail prices come down to a reasonable level, much money could be saved.

EQUIPMENT

Many types of spraying equipment have

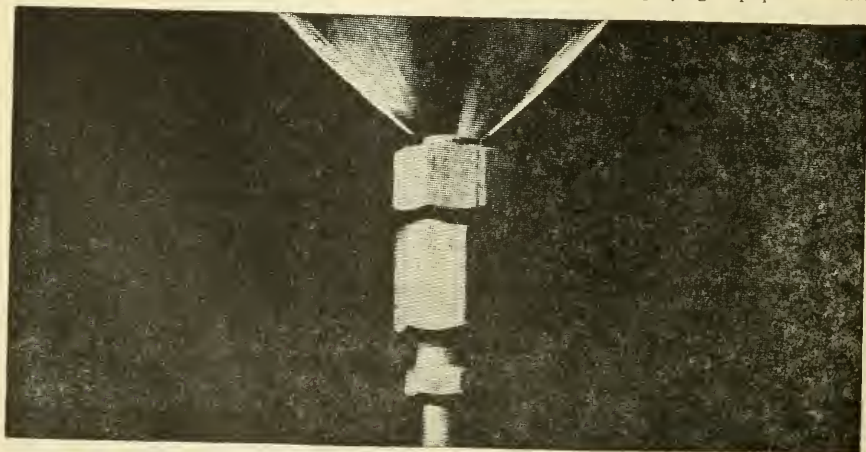


Figure 1
A Fan-Shaped Spray Acts Like a Brush in Applying DDT

been tried for applying DDT. Any good garden or crop sprayer is entirely satisfactory, provided it be equipped with a nozzle which throws a fan-shaped spray. The cylindrical sprayers used by most tobacco and vegetable farmers are suitable, provided they are equipped with the right nozzles. The only nozzle we have been able to locate which conforms with this requirement is the Type $\frac{1}{4}$ T8002 which is sold by Spraying Systems Co., of 4021 West Lake St., Chicago 24, Illinois, at \$1.80 each. With a nozzle of this type the spray can be applied to any desired surface with the greatest of ease and rapidity. (Fig. 1).

SPRAYING

In spraying, the nozzle should be held about 18 inches from the surface and moved at a rate which enables approximately 190 square feet per minute to be covered. Before the actual spraying is tried, it is recommended that the person who is to do the spraying practice on a marked-off surface, using water rather than the emulsion. He will soon be able to spray at a rate which will automatically give the correct coverage. (Fig. 2). If the nozzle is held too far away from the wall, drops form with dry spots left between them. If it is held too close, too much liquid will accumulate and it will run off of the wall.

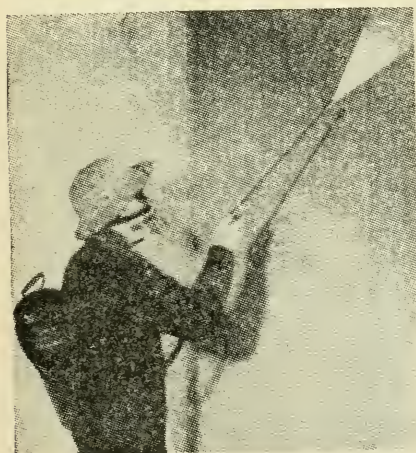


Figure 2
Spraying

The following is recommended by the United States Public Health Service before spraying a home for flies or mosquitoes:

- (1) Put out all fires. (Fig. 3).
- (2) Cover all varnished furniture in the center of the room. (Fig. 4).
- (3) Take all pictures and mirrors off walls.
- (4) Remove clothes from closets and walls.



Figure 3
Put out all Fires



Figure 4
Cover Dark Furniture

- (5) Take outdoors or cover dishes, pots, pans, eating utensils, and food. (Fig. 5).
- (6) Cover varnished floors with newspapers. (Fig. 6).
- (7) Pull down shades to prevent spotting of window glass.
- (8) Test spray nozzle OUTSIDE before beginning to spray in the house.

In spraying for mosquitoes, a good application of either the DDT-Xylene emulsion or the 5% kerosene solution should be sprayed on the walls and ceiling of each room in the house, as well as the porches. The screens should also be sprayed or painted with one of these mixtures. The spray does not harm wallpaper nor painted surfaces, but will show slightly on dark or varnished surfaces after it dries. It can be removed with ordinary furniture polish. Walls, curtains, wall paper, or furniture are not injured. Screen doors should be given heavy applications as large numbers of mosquitoes rest on the outside, awaiting the opening of the door to enter the house.

For houseflies, cockroaches, bedbugs, and fleas, the U. S. Public Health Service makes the following recommendations:

HOUSEFLIES

In addition to killing mosquitoes, DDT on walls and ceilings will also cut down the fly population, especially if the kitchen and pantry are carefully sprayed. Spray the window and door screens and the sides of the house around front and back entrances, especially the back porch and the kitchen entrance. Spray around garbage cans and in privies. Spraying barns and stables reduces the fly population tremendously.

COCKROACHES

Since cockroaches are most active at night and hide during the day in sheltered darkened places, DDT must be carefully applied and forced into cracks and crevices where these insects are usually found. Treating the walls, ceilings and floors of kitchens and pantries will help, but concentrate the spray in cracks in and around cupboards, sinks, plumbing, etc. Spray the legs and undersides

of the tables and chairs and other places where food is handled and stored, or where food particles may accumulate. DO NOT spray food or dishes.

BEDBUGS

Bedbugs hide in cracks and crevices during the day and come out at night to suck blood. Hence, DDT spray must be directed toward their daytime hiding places. Apply the DDT spray to the bedsteads, paying particular attention to cracks in the wood and joints. Spray the springs and mattresses. Strip the mattress, and spray all sides and the edges, especially any crevices in which bedbugs might hide and behind any loose paper where they might congregate.

FLEAS

While adult fleas are commonly found on pet dogs and cats in houses and often attack man, the immature stages do not occur on these hosts. Eggs drop off the animals onto the floor, and the larvae develop in the dust and debris in cracks, corners, under rugs, and on the mats where the dog or cat sleeps or is accustomed to lie down. For flea control, spray the floors and rugs of all rooms in the house, especially the basement if one is present, and give special attention to possible breeding places. DO NOT spray the animals themselves, since DDT in oil solution may be absorbed and kill the animals. Do treat kennels, sleeping baskets, mats, or wherever these pets usually lie down.

After the spraying is finished, or at the end of each day's work, the following recommendation of the U. S. Public Health Service should be followed in cleaning can and nozzle:

- (1) Remove cap, tip and strainer from body of nozzle and soak them in Xylene or kerosene.
- (2) Empty any remaining spray solution into a container for use the next day. DO NOT put it into a can with concentrate since it is not the same strength.
- (3) Fill tank half full of water, slosh around, and empty by turning upside down.
- (4) Refill tank one quarter full of CLEAN water and spray out through the hose and gun.

- (5) Wash outside of sprayer carefully, especially the hose and trigger.
- (6) Finish cleaning the nozzle parts as follows:
 - (a) Inspect the tip carefully. If necessary, remove foreign matter by using a fine brush. NEVER clean the tip with a wire or knife blade as this part is carefully machined and any scratches might change the spray pattern.
 - (b) Remove screen from strainer and clean by sloshing in Xylene or kerosene.
 - (c) Reassemble nozzle, being sure to tighten the cap carefully but securely.

While DDT is deadly to many insects, it is not harmful to man, if properly used. Large doses, such as a teaspoonful, taken by mouth or frequent exposures to excessive DDT oil solutions on the skin would probably cause toxic reactions. As with all insecticides, certain precautions should be taken to avoid possible ill effects. The U. S. Public Health Service recommends the following precautions:

PRECAUTIONS

- (1) Mix concentrate OUTDOORS whenever possible.
- (2) Wear neoprene GLOVES while handling DDT, Xylene, and concentrate.
- (3) AVOID SPILLING concentrate on clothing or skin.

- (4) CHANGE CLOTHES immediately if they become soaked with concentrate.
- (5) WASH any skin in contact with soaked clothing.

WHILE SPRAYING

- (1) Be sure to use GOGGLES to prevent eye irritation and a RESPIRATOR to avoid inhaling Xylene fumes.
- (2) Wear PROPER CLOTHING, a wide-brimmed hat, and gloves to avoid as much skin exposure as possible.
- (3) Use a GREASELESS skin lotion to prevent chap from Xylene exposure.
- (4) WIPE face frequently with clean cloth and avoid rubbing spray into eyes.
- (5) WASH hands frequently in soapy water.
- (6) Take a good soapy BATH and change clothes after each day's work.
- (7) Change clothes IMMEDIATELY if they become soaked with spray. WASH affected body parts.
- (8) DO NOT SPRAY baby beds, children's toys, high chairs, food, dishes, silverware, or rooms occupied by sick persons.
- (9) BE SURE ALL FIRES ARE PUT OUT.

NOTE: All illustrations shown in this article were taken from United States Public Health Service Publications with their permission.

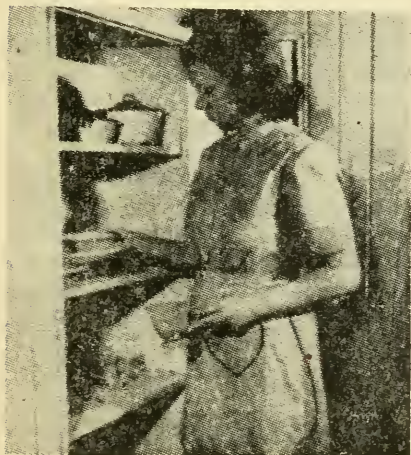


Figure 5

Take Dishes and Other Food Receptacles Outside or Cover Them Up



Figure 6

Cover Varnished Floors

The Use of DDT Dust In The Control of Endemic Typhus Fever In North Carolina

By

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Division of Sanitary Engineering

ENDemic typhus fever has been gradually increasing in North Carolina during the past ten years. The State Board of Health, in cooperation with local health departments, has been combating the spread of this disease (which is transmitted to human beings from rats by the rat flea) through programs of rat poisoning and the rat-proofing of buildings. Now with the advent of DDT, the Public Health Service has been conducting experiments aimed at determining the effectiveness of controlling the spread of endemic typhus by dusting for fleas with DDT powder.

At the present time, true facts as to the use of DDT as a dust for controlling typhus fever are mainly in the experimental stages. The U. S. Public Health Service, Typhus Control Unit, has used DDT as a dust in one county in a midwestern state for controlling typhus. In this particular state, typhus fever was more prevalent in one county than we have reported in North Carolina in one year. The results of this experiment were very encouraging, consequently, the U. S. Public Health Service receives an appropriation of around \$600,000 to be used as further experiment in the controlling of typhus fever in nine states, North Carolina being one of the nine states selected to receive a part of these funds, and to carry on a program. The areas in which the work is to be done have been selected by the Medical Division of the MCWA Unit of the U. S. Public Health Service, this unit being interested in both malaria control and typhus fever. The counties were selected on the basis of morbidity and mortality rates over the past five years; that is the number of cases of sickness and the number of deaths caused from endemic typhus fever. The four

counties in North Carolina having the highest rates, and, consequently, the ones to be worked first, are Wilson, Craven, New Hanover, and Sampson. As mentioned above, the programs in these four counties are to be a continuation of the experimental work of the U. S. Public Health Service, and other counties will be added later, if the results prove effective.

To briefly describe the typhus program which will be placed in effect in these counties in the State, we might mention that in order to evaluate the effectiveness of DDT dusting, it is necessary to establish an ecto-parasite index. To obtain this index, live rats are trapped first from those buildings where DDT dust has not been used. The rats are then combed for fleas and mites, and blood samples are collected for examination by the laboratory. In this manner, we are able to determine whether or not the rats in this particular building are infected with typhus; also, we obtain an index of the number of rat fleas, or the prevalence of rat fleas. Following this preliminary examination, DDT dust mixed in a proportion of ten per cent with pyrophyllite is used. This dust is distributed throughout the buildings in which rats are trapped, being placed in rat runs and other places frequented by the rats, the object being that the rats in running through the dust will bring it in contact with the fleas on their bodies or in their nests. Rats are again trapped from buildings which have been dusted with DDT, and are again combed for fleas and mites, as previously stated. Having established an index first of the flea population prior to the dusting, this can then be compared with the number of fleas found follow-

ing dusting. In this way we are able to evaluate the effectiveness of such a program.

The plan to be carried out in the four counties mentioned above will include first, all of the business establishments and places in the business district where rats are known to be present. Work will also be carried on in private homes selected by representatives of the State and local health departments on the basis of indications of the presence of rats, or where known cases of typhus fever have existed. It may be possible later on to extend the program in these four counties somewhat to include rural sections, but since it is a known fact that more typhus exists where man is living in close contact with rats, business and wholesale districts of the towns will be worked first.

As mentioned above, the DDT dust to be used by representatives of the health departments is mixed with pyrophyllite. It may be

that DDT powder will be placed on the market commercially later and may be secured by home owners or operators of business concerns. If pyrophyllite is not available to mix with the DDT powder, it may be mixed with flour. In this connection, one part of DDT powder to ten parts of flour may be mixed by the individual and distributed with any type of hand duster.

The U. S. Public Health Service and the State Board of Health are very much interested in seeing that these experimental programs are effective, and we sincerely solicit the aid and cooperation of the citizens living within the four counties named above. As more information is made available, and results are obtained on the progress of these first programs, we will be in a better position to determine the future course of DDT dusting in the control of typhus fever in this State.

DDT And Sanitation

By

J. M. JARRETT, Director
Division of Sanitary Engineering

WE have all read and heard so much lately regarding DDT and the miracles performed through its use that we are likely to overlook very important principles in sanitation unless we are reminded of them. We should first of all remember that DDT is an insecticide and a very effective one, but it is not a panacea or complete answer to all of our prayers insofar as insects are concerned. For example, we should remember that in our public eating places the use of DDT sprays can prove very beneficial in the control of flies, mosquitoes, fleas, and cockroaches, but this does not mean that we can throw away all of our screens, not clean up our garbage, leave store rooms in a filthy condition, and otherwise forget our basic principles of good housekeeping.

DDT sprayed on the walls and ceilings of an inside room, if sprayed effectively and

properly, will kill many of the insects that rest upon these walls and ceilings, but precautionary measures should also be taken to keep these insects from first entering the foodhandling places. Most cockroaches breed and feed around kitchen sinks, in cupboards, the underside of tables, cracks in the wall, and places where food particles are allowed to accumulate and decay. We should try to eliminate these places of breeding and habitation and not depend entirely upon DDT or any other insecticide for the control of these vermin.

Other articles in this bulletin have no doubt pointed out the importance of careful handling of DDT mixtures, and it is particularly important that these precautions be followed in connection with the distribution of DDT in foodhandling places. It would also apply in our dairies. Experiments have indicated

that the fly population can be materially decreased by spraying the inside of milk rooms and wash rooms with DDT as the flies which ordinarily enter the building during the day when the doors are being opened and left open are killed during the night. However, here again, we should not forget that our milk houses should be properly screened and effectively screened, and that manure disposals and other fly breeding preventives should be followed at all times. Most of our dairy barns are not screened and DDT will no doubt prove very effective in controlling the flies if the inside walls and ceilings are given the proper applications.

Another article in the bulletin calls attention to the control programs now underway as an experiment in the control of typhus fever, by the use of DDT. We should like to further emphasize that these programs are experimental and on the basis of some work

already done, we believe that they will prove very effective in helping us to control endemic typhus fever in the State, but again we should not forget that permanent type of measures should be taken, including the ratproofing of buildings, the elimination of garbage, proper storage and handling of foodstuffs, in order that rat breeding and subsequent flea breeding might be controlled.

We are of the opinion, on the basis of information we have available and certain experimental work that has been carried on in this State, that DDT can be a most beneficial aid to the ones of us concerned with sanitation and control of insects and vermin, but we further realize its limitations, and as mentioned above, we know that it is not a cure-all but is merely another tool for us to use and use properly in our never ending fight for better sanitation of our environment.

The DDT Residual Spraying Program For Malaria Control In North Carolina

By

JENS A. JENSEN, Engineer
Malaria Investigation and Control Unit

EARLY in 1945 a limited amount of DDT became available for use among civilians. Allotment was made through the U. S. Public Health Service only for malaria control at first, but later for murine typhus programs as well.

Although the primary benefit of these programs was directed toward civilians any reduction in these two diseases in any part of the state was of considerable indirect benefit to the military forces.

North Carolina would not have been scheduled for participation in the residual spraying program for malaria control had it not been for the evidence on the exact distribution of malaria in many counties of the state obtained by means of the school blood slide surveys carried out from 1940 to 1945 by the State

Board of Health Malaria Control Unit. While the state as a whole did not have a very high case rate as compared to other states, certain counties did show a sufficiently large incidence of the disease by blood slide survey to justify the establishment of the residual spraying program in those areas.

At the time the blood slide surveys were carried out maps were prepared of the county being surveyed. On the maps all streams and other possible breeding areas were shown, together with the residence of every school child having a positive blood smear. From these maps it was an easy matter to prepare a list of homes in the malarious areas.

Sufficient DDT was released by the U. S. Public Health Service to spray a certain number of these homes. The necessary personnel

and equipment were secured by the Malaria Control in War Areas organization already in operation in the state and administered under the supervision of its state director. The first shipment of DDT was received in North Carolina in March 1945. Headquarters for the spraying unit was set up in Goldsboro with office space generously supplied by the Wayne County Health Department. This choice proved to be satisfactory because it was centrally located and also because the nearby Seymour Johnson Army Air Base permitted the use of buildings for storage of materials and equipment.

In order to insure the proper introduction of the program to the individuals whose homes were to be sprayed an educational project was organized to run concurrently with the spraying. Health officers in adjacent areas cooperated fully by making the health educators on their staffs available for malaria field work. Neighborhood leaders were contacted by these workers and literature distributed. Other standard educational techniques were also used as indicated. The householders obtained the basic facts about DDT and learned what could be expected during the actual spraying operation. Before the actual spraying was begun the homes that had been selected were located on a map and assigned a number. In this way the spraying crews could be assured of positive identification of the homes and of finding them without unnecessary delay.

Because of the scattered location of the communities it was found best to set up three spraying crew units, one each at Lumberton, Goldsboro, and Rocky Mount. Each unit was made up of three men, a foreman and two laborers. Their equipment consisted of a half-ton truck, four portable sprayers similar to a tobacco sprayer, and provision for carrying the DDT supply into the field. Safety items were also supplied such as gloves, respirators, goggles, and cover cloths for furniture. The DDT was mixed at Goldsboro and brought to the unit headquarters in the form of a concentrated 35 per cent solution ready to be diluted with water

on the location where it was to be applied.

The crews went through a training period at Goldsboro and each member was taught how to use the spraying equipment. Special emphasis was put on the proper rate of application of the DDT. Practice was carried out on applying an optimum amount of the spray in the minimum of time. Information has been obtained from the U. S. Public Health Service Laboratories that the best rate of application allows one-tenth of a gram of DDT per square foot and that the operator should cover 230 square feet per minute with the ideal type of spraying apparatus. These figures are based on the use of a 2.5 per cent solution of the insecticide.

Another important phase of the instruction dealt with the variety of surface encountered in the homes and the corresponding modifications needed in the spraying technique. Last but not least, the crews were instructed in being courteous and tactful in their approach to and dealings with the householders.

The first spraying began late in March and by late July one round of spraying had been completed covering a total of nearly 3,000 homes. Each householder was given notice of the arrival of the spraying crew one day in advance and was also asked to prepare the house for spraying by removing objects from the walls and centering furniture in the rooms for covering by the crew. All rooms in the houses were sprayed as well as porches and privies. The actual spraying time averaged about ten minutes per house.

Inasmuch as DDT has a residual effect limited to about four months a second round was begun at the completion of the first, so that the anti-mosquito action would be operative for the entire duration of the breeding season. Work was scheduled to terminate as soon as cool weather set in. It is expected that by the end of the spraying season approximately 4,500 homes will have received treatment. It is interesting to note that during the first round about 90 per cent of the householders accepted the spraying, whereas on the second round 99 per cent were agree-

able. The fine cooperation of the citizens in preparing their houses and in assisting the spraying crews clearly indicated great satisfaction with the results.

The fundamental purpose behind the DDT residual spraying program, of course, was to eliminate mosquitoes infected with malaria. It is known that when a mosquito capable of transmitting malaria bites an infected person the insect usually rests on a nearby surface before leaving the vicinity. If that surface is coated with DDT the mosquito will die within a short time.

In addition to the elimination of the danger from such mosquitoes many secondary benefits

resulted from the program. Flies and bedbugs are equally susceptible to the effects of DDT and were killed in large numbers along with the larger specimens of cockroaches. Thus, no matter how dubious a householder was about the worth of ridding the premises of mosquitoes, each one was highly grateful for the elimination of flies and roaches, and, in many instances, bedbugs.

The success of the spraying was due, to a large extent, to the fine educational work done by the health department educators and sanitarians as well as to the splendid cooperation of the local health officers in many other details.

DDT And House Flies

By

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EXPERIMENTS to test the effectiveness of DDT in the control of adult house flies have been carried on at a Wake County dairy farm during the past year.

On September 25, 1944, the milk house at this farm was sprayed with a 11.5* per cent DDT-Xylene emulsion. The insecticide was applied to the walls and ceilings of all rooms as well as to the screens, outside eaves, and entrances.

Fly counts in the buildings before spraying gave a total of 461 specimens, while the number of adults under the eaves, around the entrances, and in the engine room was estimated at 500.

Observations immediately following treatment showed few flies on the wall surfaces. Fly counts each morning for the next 28 days by dairy personnel revealed a total of 17 specimens, these flies primarily being found on milk cans or bottle crates which recently had been brought into the milk house. Such specimens probably had not rested on the sprayed surfaces. This virtual elimination of the fly population caused the usual morning practice of spraying the milk house to be abandoned for the remainder of the year.

Eleven days after spraying, observations in several rooms at the milk house revealed the presence of approximately 200 flies. The latter had entered through the opened screen doors during a recent loading of the milk trucks. One hour later, approximately 80 per cent of the flies had fallen to the floor and were showing symptoms of DDT poisoning.

For an accurate check of the residual power of DDT as an effective control for house flies six experiments were conducted between October 9, 1944, and May 4, 1945. In these tests a given number of house flies and stable flies were released in a small room (6.6'x6.6'x8.7') at the milk house and their reactions observed.

Flies were obtained in an adjacent barn by placing a large culture tube over the specimens as they rested on the wall. The night temperatures were sufficiently low to immobilize the flies to the extent that their capture was readily made, two individuals taking 150 to 200 specimens in ten minutes.

In each test counts were made of the

*This was an experimental mixture. Present day practice is usually limited to concentrations of 3 to 5 per cent.

TABLE I

The Rate of Knock Down of House Flies 2 Weeks to 7½ Months After the Application of a 11.5 per cent DDT-Xylene Emulsion Spray

* Number and Percentage of

Flies Knocked Down at the End of 15-minute Intervals

Date	No. of Flies Released	15 min.	30 min.	45 min.	60 min.	75 min.	90 min.	105 min.	120 min.	Per Cent Mortality After 15 hrs.	Temperature Range °Fahrenheit
Oct. 9, 1944	185	18 9.7%	89 48.1%	153 82.7%	163 88.1%	179 96.7%	180 97%	185 100%	.....	100	66-69
Oct. 23, 1944	202	10 4.9%	78 38.6%	137 67.8%	174 86.1%	188 93.5%	197 97.5%	201 99.5%	202 100%	100	57-63
Nov. 6, 1944	186	0 0%	54 27.9%	127 68.9%	161 86.5%	170 91.3%	183 98.3%	186 100%	.....	100	59-61
Dec. 4, 1944	62	8 12.9%	33 53.2%	48 77.4%	58 93.5%	62 100%	.....	.....	.....	100	54-58
Dec. 20, 1944	99	3 3.0%	17 17.1%	73 73.9%	87 87.8%	97 97.9%	99 100%	.....	.....	100	52-54
May 4, 1945	163	0 0%	27 16.5%	76 46.6%	131 80.3%	148 90.7%	156 95.7%	158 96.9%	158* 96.9%	100	81-85

* 5 flies still clinging to wall, placed in culture tube, dead within 12 hours.

number of flies on the floor at the end of successive 15-minute periods, the "downed" specimens being placed in a culture tube each time. These flies were then held over for 15 hours to see if any recovery was apparent. In the December and May experiments, check tubes of 12 to 15 flies that had not been in contact with DDT were kept in the test room. At the conclusion of each test all of these flies were fully active, thus illustrating that the "downing" of the released flies was actually due to the DDT. At the end of 15 hours, however, a few flies did die in the check tubes.

Observations of the flies showed that immediately after release the specimens flew to the wall surface. Initial restlessness, characterized by flying from one wall to another or remaining in the air, was evident in all tests within 10 minutes of the time of release. This nervousness increased until the room was filled with buzzing flies. Resting specimens exhibited jerky leg and wing movements when they attempted to move about. As time passed the efforts of the flies to maintain their position became more apparent. Some repeatedly lost their foothold, falling and flying to another surface. Others clung closely to the surface, moving about in a haphazard fashion. Gradually the DDT had such an effect that the specimens fell to the

floor where they buzzed about on their back or laid still, their legs twitching. Occasionally a fly recovered and flew back to a wall surface.

The data from these tests (Table I) show that the DDT was as effective approximately $7\frac{1}{2}$ months after its application as it was 2 weeks afterwards. In this regard it should be kept in mind that the time element involved the cool months of the year; $7\frac{1}{2}$ months in spring and summer might not show the DDT to have a similar residual power. In addition the 11.5 per cent DDT spray is 2 to 4 times more concentrated than that generally employed.

From the data it is apparent that the greatest part of the knock down occurred in the 45 minute period between 15 to 60 minutes after the flies were released. On a percentage basis, figures for the six experiments are as follows: Of the total flies released on October 9, 78.4 per cent were downed in this 45-minute period; on October 23, 81.2 per cent; November 6, 86.5 per cent; December 4, 80.6 per cent; December 20, 84.8 per cent; and May 4, 80.3 per cent.

The residual effectiveness of DDT in adult house fly control as shown in these experiments should prove of vast importance not only to restaurateurs and dairymen but to every householder in the state.

THE long-range results of extensive DDT programs directed toward malaria and murine typhus control are, of course, not yet available to us; however, certain possibilities present themselves for consideration.

Up to the advent of DDT, malaria control depended on screening the elimination of breeding areas where economically feasible and on larviciding those breeding areas that could not be drained. Entomological study was necessary at all times to determine the location and types of breeding areas in a given location.

This type of control work was difficult and expensive, and appropriating bodies were in some cases slow to devote adequate funds to such programs.

With the development of DDT and the widespread dissemination by the press of information leading to spectacular conclusions regarding its possibilities, the attention of public health workers will of necessity be turned toward this new control agent.

There is a distinct possibility that continuation of drainage might be forgotten under such circumstances. Appropriations for permanent control may be reduced because of a sense of security afforded by DDT application in the homes of citizens in malarious areas.

There is little doubt that the new insecticide will play an important part in malaria control in the future, but for the present it might be much wiser to continue with larviciding and permanent drainage work.



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Tuberculosis Thirty Years Ago And Today

By

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A GENERATION ago having tuberculosis was a calamity which had few equals. The public thought of tuberculosis in terms of consumption. Tuberculosis and cancer probably ranked as the two most dreaded of all diseases. Because the diagnostic facilities at that time were rather crude, the disease was rarely diagnosed until it was far advanced and it is no wonder that the disease was considered incurable. The X-ray was not being used in diagnosis. Pneumothorax was being used very sparingly, if at all. Only a handful of sanatorium beds in poorly equipped wooden buildings were available. It is not surprising that a number of tuberculosis sufferers were prejudiced against taking sanatorium treatment. Some felt that it would hurt their social standing to go to a state sanatorium. Most private sanatoria were too expensive for the average person.

The public generally considered tuberculosis as an inherited disease, one of the necessary evils which we would always have with us and from which little relief could be had.

In those days also there was no help for indigent cases to be had from welfare departments and few counties offered assistance to needy patients. Few employers felt any responsibility for extending aid to their employees who were unfortunate enough to con-

tact tuberculosis, even though they had been in their employ for many years.

In 1915 the death rate from tuberculosis in North Carolina was 156.4 per 100,000 and tuberculosis was far in the lead of all other diseases as a cause of death.

For a preventable and, in the early stage, a curable disease there are still entirely too many deaths and too much sickness from tuberculosis. However, the progress made in tuberculosis control in the past generation in practically all civilized countries ranks as one of the greatest of all public health accomplishments.

Without the help of any preventive vaccine or medicinal specific the death rate from tuberculosis in North Carolina has been reduced in thirty years from 156.4 to 32 per 100,000. Had the 1915 rate continued there would have been 5,852 deaths from tuberculosis in North Carolina in 1944 instead of only 1,132. This means an annual saving of 4,720 lives each year and an untold amount of suffering. The State could not have made any better investment of the funds necessary to attain this degree of tuberculosis control. Aside from the humanitarian benefits the investment has yielded splendid financial returns. \$3000 is a low estimate of the cost to the community of each death from tuberculosis. This means an annual saving to North

Carolina of \$14,160,000, which is almost as much each year as the State has spent in the construction and total maintenance of her three Sanatoria.

The decline in the tuberculosis death rate has been steady and continuous. Tuberculosis now ranks seventh instead of first as a cause of death. During the stress and privation of war years the death rate from tuberculosis usually goes up, but during World War II the rate has continued to decline both in the United States and in North Carolina. Even though North Carolina is one of the tuberculosis resort states, and though 29% of our population are Negroes, in whom the death rate is $3\frac{1}{2}$ times that of the white, the death rate in this State is now below that of the United States as a whole.

It is now possible for everyone who has tuberculosis to find it out while it is in the early and curable stage. Modern treatment can be had in a well equipped county or state sanatorium at a comparatively short distance from the patients home. If he is unable to finance his own treatment, welfare departments and county officials cooperate with the State in taking care of the expense for him. Social agencies help to see that the family is provided for while he is away. After he has sufficiently recovered to be able to work again the State Rehabilitation Department will either help him get his same job back again or will train him without cost to him for a new job in case his previous occupation is unsuitable. Well equipped libraries, radios, moving pictures and broadcasting units for religious services and entertainment all help to make the patients stay in a sanatorium more pleasant. The public no longer ostracizes the sanatorium patient, but on the contrary considers it his obligation to himself and to the public at large to go to an institution for treatment.

Among the factors most responsible for bringing about these changes may be mentioned: better facilities for diagnosis, the most important of which are the X-ray and the tuberculin test; better methods of treatment and especially pneumothorax and other forms

of collapse therapy; the provision of more beds in modern State and county sanatoria; a more active interest in tuberculosis control both on the part of physicians and the public; better public health organizations and better nursing service; increased activity of volunteer National, State and county tuberculosis associations; a better marshaling of the social forces, especially the development and activities of the welfare departments; the awakening of the public to the fact that tuberculosis is a community disease and that its eradication is a community responsibility.

Early diagnosis, sanatorium treatment of all active cases of tuberculosis and education of the public are the main essentials for the eradication of tuberculosis.

The X-ray now makes it possible for every case of tuberculosis to be discovered in the early and curable stage and usually before there is any danger of contagion. If every one in the United States would have an X-ray of his or her chest every year, or even every two or three years, tuberculosis could soon be eradicated. In North Carolina hundreds of private physicians and hospitals have X-ray equipment. The majority of the county health departments have modern fluoroscopes and most of them are equipped to make X-ray films. Widespread use of miniature X-ray films or photofluorographic equipment will soon make it possible for everyone to be X-rayed. With this equipment a hundred persons per hour can be X-rayed with a single machine and at only a fraction of the cost of large films. Already the U. S. Public Health Service has been cooperating with the Tuberculosis Control Division of the State Board of Health in X-raying tens of thousands of people in our State. The Tuberculosis Control Division of the State Board of Health now has one miniature film unit and expects to get at least two more. The Extension Department of the Sanatorium is purchasing one unit and a number of the local communities in the State either have already purchased or are contemplating purchasing miniature film equipment for the mass X-raying of the

people of their communities. It will soon be possible for schools, colleges, industrial groups and communities to have this service by applying to Dr. T. F. Vestal of the Tuberculosis Control Division of the State Board of Health, or to the Extension Department of the N. C. Sanatorium.

Early tuberculosis does not cause one either to look or to feel sick. Regardless of how well he feels everybody should have an X-ray of his chest. On X-raying the chest of millions of apparently healthy young men for the Army and Navy the induction boards found that one out of every hundred had tuberculosis and that one out of every two hundred had active tuberculosis and needed sanatorium treatment. It is an easy matter for one to be cured of early tuberculosis, but if the disease becomes advanced it is a long drawn out procedure and complete recovery is rarely possible. If patients wait until they have symptoms or feel sick to be X-rayed, the great majority have advanced disease. When large groups of apparently healthy people have their chests X-rayed the vast majority of those who are found to have tuberculosis have the disease in the early stages. Even though one has every reason to believe that his X-ray will be negative it is well for him to have an X-ray for a permanent record and for future comparison.

It has been found by careful surveys that for every death from tuberculosis in a given community there are some eight to ten active cases of the disease. There are, therefore, in

North Carolina at least ten thousand persons with active tuberculosis. Quite a large number of these are undiscovered and a great many of those affected do not even suspect that they have the disease. Often these undiscovered persons with tuberculosis, who are taking no precautions to protect others, are a source of great danger to the public.

Every patient with active tuberculosis, whether early or advanced, should go to a sanatorium for education and treatment and remain there until he gets his disease under control. While in a well conducted sanatorium he will not only be getting his disease arrested, but also he will learn how to live and adjust his life in such a way that he will not have a return of his disease and will not be a source of danger to others.

North Carolina is short of sanatorium beds. Every community should have two beds per death as a minimum. Soon after building restrictions are lifted we are in hopes that additional beds can be provided.

Before tuberculosis can be eradicated, or even controlled, it is necessary for the public to become well informed about the disease. Perhaps some day some medicine or vaccine will be discovered to cure the disease. Whether such a remedy is found or not, however, it is altogether possible to eradicate the disease by educating the public to take advantage of the control measures we already have. Let us hope that within the next twenty-five years tuberculosis will be eliminated as one of the major causes of sickness and death.

Some Things We Should Know About Tuberculosis In North Carolina

By

T. F. VESTAL, M.D.

Director Division of Tuberculosis

WHILE no race, color or creed enjoys immunity from the disease, it is a well known fact that certain groups bear the burden. During the year 1944 there were

1132 residence deaths from tuberculosis in the State. Of this number 684 or 60% were non white while 448 or 40% were white. Stated in another way the white death rate

was 16.5 per hundred thousand while the non white death rate was 64.8 per hundred thousand population. Thus it appears that the death rate was in the ratio of almost four non white to one white. So long as there are deaths in one segment of the population no other segment is safe. Those groups presenting the greatest hazard must be located and an effort made to remedy the situation. This problem should present a challenge for the case finding program. If real headway is to be made in the control of the disease, it must be discovered in its earliest stage. This means that in most instances the discovery must be made before the victim becomes ill to the extent he is driven to the physician. The successful case finding program must be taken to the public rather than waiting for the public to come in search of case finding. All adult groups are potential sources of active adult or reinfection type tuberculosis. It has been found that a case screening of the adult population will disclose from one to three cases of significant tuberculosis for each 300 cases examined in mass surveys. About six out of every ten active cases discovered in mass surveys are found to be in the early or minimal stage of the disease. This means that the chances for recovery and return to normal self-support is at least twice as great as has been the case with our routine Sanatorium admissions during the last few years. This is a conservative statement since few sanatoria can boast of more than 20% minimal case admissions in the past. The earlier the trouble is detected, the shorter the treatment period necessary. This would mean that our sanatorium beds would serve more cases in a given period of time since the stay in the sanatorium would be reduced and since the turnover of patients would be proportionately greater. It is indisputably true that we need more sanatorium beds but the additional number needed may not be as great as might first appear provided we can discover our cases early and get them under treatment. Mass survey examination is unquestionably one of the solutions to the problem.

It is true that at least one-fifth of the population of our State is located in the cities and towns of 10,000 population and over. This urban population accounts for at least one-third of our annual tuberculosis deaths. This means that the city tuberculosis death rate is at least twice as great as the tuberculosis death rate in the State as a whole. Does this not indicate that our case finding efforts should first be directed to screening the city population?

We believe that is sound reasoning and a greater number can be reached in the cities in a shorter length of time and with less expenditure of time, effort and money. Since the death rate is higher in the cities and towns we can reasonably expect to discover a greater number of significant cases of tuberculosis per thousand examinations made in the city groups than would be found in rural groups. Also it would, where practical, seem wise to put forth additional effort to screen all Negro groups especially in industries. Other things being equal they should provide about four times as many active cases of tuberculosis per thousand examinations as would be expected from white groups. Of course, all members of families with an open active case of tuberculosis should be promptly and periodically X-rayed. This has been attempted in the past but with only partial success in many cases because the "well" members of the family do not always cooperate and go to the trouble to submit themselves for examination. This is, no doubt, partly due to the lack of health education. Much can be accomplished in this field by the health educators who go to the trouble of locating and using the correct approach. In some instances it would only be necessary to point out the matter of safety and expediency. In many other cases the task will be difficult and tedious.

A study of tuberculosis death certificates for 1944 reveals that only three counties in the State escaped and these three, Alleghany, Clay and Graham, are all Mountain counties, all other counties report from 1 to 80 deaths from tuberculosis during the year.

By averaging the deaths for each county in the State for the five year period, 1938-1942, we find that 38 counties exceeded the average death rate for the whole State for that same period. 35 of those 38 counties with high rates are found in the Eastern half of the State. With the exception of a few of the larger towns this probably parallels rather closely the distribution of the Negro population of the State.

In an effort to arrive at reasonable accurate information concerning the number of known active cases of tuberculosis in the State, we recently sent out to the County Health Officers a form letter asking for the number of known active cases of tuberculosis in their districts. To date 43 counties have been reported, and 1720 cases have been reported from these 43 counties. Of this number 930 are white and 790 are non white. The estimated population of the counties reporting is 1,663,200. The estimated white population of the counties reporting is 1,170,900 and the Negro population is 492,300. The estimated total for the entire

State is 3,742,000. This would indicate that there are between 3,500 and 4,000 known active cases of tuberculosis in the State. Of the 1720 known cases reporting from the 43 counties 677 are reported to be in the sanatorium as of July 1, 1945.

There are 1380 beds for tuberculous patients in the State institutions. Of this number 600 are for Negro patients and 780 for white. In the County sanatoria some of which provides little more than custodial care there are approximately 900 beds. About 400 are for Negroes and about 500 for white patients, a total of a little less than 3,000 beds for tuberculosis patients. Our case finding program now getting underway will, no doubt, uncover a great many cases not known at this time. This will bring about an even greater discrepancy between the present bed capacity and the number of cases in need of treatment but we have already pointed out that by earlier discovery of the disease the necessary stay in the sanatorium will be shortened.

President's Message

By

DR. DAVID T. SMITH, President
North Carolina Tuberculosis Association

THE generous hearted citizens of North Carolina made the 1944 Christmas Seal campaign a great success. The 1943 record sale of \$198,110.13 was increased to \$272,461.75 in 1944. Mrs. J. Henry Highsmith, the State chairman, and her thousands of assistants brought the message of the Christmas Seals into nearly every home in the State.

The financial success of the campaign emphasizes the responsibility and, at the same time, provides the means for an intensified attack on tuberculosis in this State during 1945.

The primary function of the National, state and local associations has always been and must continue to be one of education. Tuberculosis can be completely eliminated from

the United States. Scientific studies are providing the knowledge, practical experience is developing the methods, and more efficient cooperation between national, state and county agencies is supplying the driving power for this campaign to eliminate tuberculosis. The national, state and local associations cannot either alone or in cooperation, eliminate tuberculosis, but they can and must keep constantly before the eyes of our citizens the complex integrated program which will in time accomplish our goal.

Tuberculosis is a local disease. It spreads from one member of a family to another, from one neighbor to another, from a laborer to his fellow laborers, from the domestic servant to the employer's children, from a clerk

to his fellow clerks and to customers. To stamp out tuberculosis we must work at the local level, community by community and county by county. Adequate beds in the State Sanatorium for early and moderately advanced cases are essential, but that alone will not solve the tuberculosis problem. As long as there is a single undetected case of open tuberculosis in the county or a single case of far advanced tuberculosis which is not properly isolated, these foci spread the germs for the development of more early and moderately advanced cases which, in turn, must be sent to the State Sanatorium. If this cycle continues indefinitely, we cannot eliminate the disease.

To break the cycle of infection and reinfection, we must attack the links in the chain which are known to be weak. We must find every open case of tuberculosis in the community. The early and moderately advanced cases can be sent to the State Sanatorium, but the far advanced cases must be isolated and treated in the local county sanatorium or in a local sanatorium which serves a local group of counties.

The convalescent patient from the State Sanatorium may no longer be a carrier of the disease, but he is subject to relapse as an open case if he returns to an unsuitable occupation. The tuberculosis patient must be "rehabilitated," and this means economic as well as physical rehabilitation. The process should

start as soon as the disease is diagnosed, continue—when the physical condition permits—during the stay at the sanatorium, and be completed in the post-sanatorium period. This we must do, not only for the benefit of the individual patient, but to protect the community from new infections which may come from this source.

Tuberculin testing in school children, especially in the lower grades, should be carried out and repeated yearly or every two, three or five years, not primarily to find active cases of tuberculosis in the schools, but to learn from the percentage of positive reactions which communities have the highest infection rate and how effective our control measures are in reducing the incidence of new infections.

More organized effort should be directed toward the tuberculosis problem in the Negroes in North Carolina, and they should be encouraged to assume more responsibility for the success of this program, especially in regard to case finding.

Mass X-ray survey in the industrial population is probably the most rapid and effective method of discovering asymptomatic carriers of the disease in the adult population.

To implement the program outlined above, we must have a strong, active association in every single county in the State of North Carolina.

The Responsibility Of The Private Physician In Tuberculosis Control

By

HERMAN E. HILLEBOE, Medical Director
Chief, Tuberculosis Control Division, U. S. Public Health Service

THE importance of the general practitioner in the control of tuberculosis among private patients is emphasized by the findings of the Public Health Service in chest X-ray surveys conducted among more than a million industrial workers and by the discovery

of a relatively high incidence of the disease among rejectees of the armed forces.

Eight mobile X-ray units, operated by the Tuberculosis Control Division of the Public Health Service in various parts of the country, found that three in every 200 persons ex-

amined had X-ray evidence of reinfection tuberculosis—active or inactive. Sixty-five per cent of the lesions were in minimal stage, 30 per cent in moderately advanced stage and five per cent of the lesions in far-advanced stage. Pre-induction examinations by Selective Service alone revealed 150,000 cases with X-ray evidence of tuberculosis.

That the family physician will be called upon to treat a great majority of these persons is borne out by the experience of the U. S. Public Health Service and of the National Tuberculosis Association and its affiliates. In industrial surveys an overwhelming number of workers who could afford private care designated their family physicians—general practitioners—as the doctors to whom the report of the X-ray findings should be made. When these reports are sent out they are accompanied by a request that the physician confirm or disprove the X-ray findings by further clinical studies—such as history and physical examination, laboratory tests and repeated X-ray examinations. He is also asked to examine contacts and to report the new cases of tuberculosis to the local health department.

The average patient has a great deal of confidence in his private physician and expects him to treat tuberculosis just as he would accept other family medical emergencies. Psychological factors make this desirable and practical considerations make it feasible, especially if the physician possesses sufficiently broad understanding of tuberculosis and modern therapeutic methods. Sanatorium care is no longer the only method of tuberculosis control. Many minimal lesions and a limited number of inactive advanced lesions are amenable to out-patient supervision under strict medical care. This supervision and care can often be rendered by the alert general practitioner who possesses modern knowledge of the diagnosis and treatment of tuberculosis.

The demand for this type of care is expected to increase rapidly as mass radiography units penetrate all sections of the country, uncovering a large number of unsuspected cases of

pulmonary tuberculosis that will need medical supervision—before and after sanatorium care.

The personal experience of actually having a chest X-ray will stimulate thousands of individuals to seek medical care, from general practitioners, chest specialists and radiologists, either for tuberculosis or for other chest conditions found on survey examinations.

Through their vast nation-wide educational program, their case-finding and rehabilitation work, which are supported by the sale of Christmas Seals, the National Tuberculosis Association and its affiliated groups will continue to awaken communities to the dangers of the disease. As a result, communities will provide the armamentarium needed for the proper care of the tuberculous patient—hospital beds, clinics, laboratories, rehabilitation service, extensive chest surveys and generous social assistance for the dependents of the tuberculous patient.

The by-product of cooperative plans of public agencies and voluntary associations will provide new aids for the physician in private practice—X-ray laboratory and consultation services, as well as opportunities for post-graduate training. With these aids he will be better equipped to meet the increasing demands of the tuberculous patient for his services.

As X-ray surveys become an annual routine in many communities, more and more minimal lesions will be found, and conversely, fewer advanced lesions, which now, in most cases, require immediate sanatorium care. The reversal of the old ratio will shorten and simplify therapy for the larger proportion of tuberculous patients, will assure quicker and more complete treatment, and greatly increase the chance of vocational rehabilitation.

A better distribution and greater expansion of clinic, X-ray field services and laboratory facilities will bring modern diagnostic aids within the reach of every general practitioner in urban or rural areas. New, well-equipped sanatoria, more accessible to population centers, and accredited for residency training, will provide convenient consultation service. Such

institutions can be developed to provide post-graduate training of great value to the general practitioner. Research laboratories and demonstrations devoted to the evaluation of old and new therapeutic methods and clinical concepts about tuberculosis have already been

established and will be increased in number. From these efforts it is hoped additional aids will be forthcoming for the physician, not only to control but to eradicate the White Plague within a measurable time.

Objective—Eradication

By

DR. KENDALL EMERSON, Managing Director
National Tuberculosis Association

THE myth that tuberculosis is nearing the point of being conquered has received two rude shocks of late. The first is the discovery of tens of thousands of unsuspected cases through mass X-ray procedures. The second is autopsy proof that the infection rate has not lessened proportionately to the decline in mortality.

Eradication of the tubercle bacillus lies far ahead. Nevertheless it can and must be done.

As one of the forces that have charted the course toward this end, the Christmas Seal takes on added significance today. Never has its educational work been more needed; never the opportunity greater for the fulfillment of its objective.

Our goal for 1945 is a national Seal Sale of \$15,500,000. How best can the proceeds from our annual campaign be used? Answers are found in the following partial list:

Teach the cause of tuberculosis and methods of prevention

Examine those in contact with open tuberculosis

Diagnose the suspicious case

Modern treatment in a sanatorium, adequately staffed with medical and nursing personnel; with facilities for surgery

Rehabilitation started during treatment

Vocational training and guidance toward selected jobs

Continuous social and medical supervision

This is a practical interpretation of "Authorized Forms of Tuberculosis Work"—our guide in discharging our responsibility to the public which answers our appeal for funds.

With a program expanded along these lines we can enter our 39th Annual Seal Sale with assurance that we are heading in the right direction; with confidence in the generosity of our understanding public; with certainty that the Christmas Seal Sale will stand by until the job is finished.

Community Responsibility For Health

By

FRANK W. WEBSTER, Executive Secretary
North Carolina Tuberculosis Association

AT the turn of the century tuberculosis caused more deaths in the United States than any other disease. Improved methods of diagnosis, particularly the use of the X-ray in detecting early cases of tuberculosis, in-

creased facilities for the care of the tuberculous, and more widespread general understanding of the nature of the disease have resulted in a decrease of 75 per cent in tuberculosis mortality since 1904. The death rate in 1944 was

40.8 for the nation as compared with approximately 200 in 1904. The number of hospital beds for tuberculous patients has increased from 9,000 in 1904 to nearly 100,000. Of these 84 per cent are in tax-supported hospitals.

In 1914, the first year the Bureau of Vital Statistics of the State Board of Health was established, the death rate from tuberculosis in North Carolina was 139.3. The following year with better reporting of deaths from this disease, the rate jumped to 156.4. Since 1915 there has been a gradual decline in the State in the number of deaths from tuberculosis. In 1944 the death rate from this disease reached an all-low of 30.3. There has been a great increase in the number of hospital beds provided for tuberculous patients in North Carolina during the past ten years. There are now 2,433 hospital beds for the tuberculous maintained by state and local sanatoria.

Encouraging as this sounds, the battle is by no means won. Tuberculosis still takes more lives between the ages of 15 and 45 than any other disease. This disease killed 57,000 persons and incapacitated thousands more in the United States last year. There were 1,383 persons killed by tuberculosis in North Carolina last year. For the past five years this disease has killed 7,979 persons in the State.

The North Carolina Tuberculosis Association is a voluntary agency which for the past 39 years has waged a relentless fight against tuberculosis. Its campaign, carried out in co-operation with other voluntary groups and with public health agencies, has as its objective the eradication of tuberculosis from the community. In order to attain this goal, it must have the support of an enlightened public, a public which understands that tuberculosis is a communicable disease and that each case within the community endangers the lives of everyone else, a public which also understands that, if detected in time and treated properly, tuberculosis can be cured and that its erstwhile victims can be brought back to useful living.

There was a time when the individual, upon learning that he had tuberculosis, could contemplate nothing but the life of an invalid for whatever years remained to him. Fortunately, that day is past. A better understanding of the disease and its effect upon its victims, together with improved methods of treatment, have made possible the salvaging of lives overshadowed by tuberculosis.

Modern treatment of tuberculosis is concerned not only with the restoration of physical health, but also with returning the patient to society prepared to follow an occupation which will be both useful to the community and satisfying to him. Although it cannot be said that a former tuberculosis patient can live an absolutely normal life, since certain occupations which demand great physical exertion will always be closed to him, there are numerous paths which an individual may follow and by which he may make a definite contribution to society.

The rehabilitation of the tuberculous is sound economy. Once the tuberculous patient is brought back to productive life he ceases to be a care to society, but more important, he is able as an individual to shoulder his own responsibilities. Often the patient obtains a better position on leaving the hospital than he held before his illness.

When we consider the progress which has been made in the treatment and care of the tuberculous, we realize that it is not far-fetched to contemplate the day when this disease will be completely conquered. This goal cannot be attained, however, unless all of us unite in a well-planned campaign against the disease.

Today the National Tuberculosis Association has approximately 2,500 affiliates in states, counties, and cities of the United States. North Carolina has 32 organized county tuberculosis associations and 139 tuberculosis committees. The programs of these affiliates are planned to meet local needs, but the advice and counsel of the National based on the experience of 41 years are always available. In the same manner in North Carolina the

local associations and committees plan programs on local needs, but have the guidance and experience of the State Association.

The National and its affiliates from the first have been voluntary organizations composed of physicians and laymen. These two groups have worked together for 41 years in a relentless campaign against this disease. Undoubtedly, a large measure of the success which they have been able to attain is due to the fact that the tuberculosis movement in this country was never confined to any one special group, but enlisted the support and the talents of all people who had a contribution to make. It is a source of pride and it is to the credit of the people in the tuberculosis movement that voluntary organizations and public agencies have been able to work together for the conquest of this disease and it is undoubtedly due to this cooperation that steady strides have been made toward our goal—the complete eradication of tuberculosis.

Naturally, funds were needed to carry on the campaign against the disease. When the National Association was only 4 years old, it adopted a fund-raising technique which has been highly successful. This is the Christmas Seal Sale which is conducted annually. These

Seals, distributed by mail, have brought the funds necessary to support the work of the association and at the same time, because they are used by a large segment of the people, they have helped make the public conscious of the tuberculosis movement. Of the money realized through the Seal Sale, 75 per cent is retained by the local community for local needs, 20 per cent is used for the State program, and 5 per cent is sent to the National Association to carry on its program. This means that 95 per cent of the money raised through the Seal Sale is used for tuberculosis control work in the State.

Although we in this country think of the Christmas Seals as an American tradition, it originated in Denmark and prior to the war was used by approximately 45 countries to support tuberculosis control work.

The sale of Christmas Seals is the sole means the National, state and local tuberculosis associations have of financing their work. Once every year you are asked to buy these seals to prove that you want these associations to continue their fight against tuberculosis. In buying and using Christmas Seals you are enlisting in a planned campaign to make our community a safer place in which to live.

Did You Know?

An Article Concerned with Pertinent Facts About Tuberculosis

By

LATHAM L. MILLER, Asst. Executive Secretary
North Carolina Tuberculosis Association

DID YOU KNOW—

THAT in 1944 about 200,000 persons were treated in tuberculosis institutions and that the average daily census in tuberculosis hospitals was 80,000 persons?

That according to the best estimates, 500,000 persons in this country have tuberculosis and that only about 300,000 of these cases are known?

That there is no place for complacency regarding tuberculosis in this country; that it

is still a grave public health problem—killing approximately 57,000 Americans a year, or one person every nine minutes?

That tuberculosis was the cause of the rejection of some 150,000 men and women for military service in World War II?

That tuberculosis has followed in the wake of wars, taking a tremendous toll among weakened populations? Reports from Europe and Asia reveal that tuberculosis is already on the rampage in countries overrun by the

enemy. One French authority recently stated that in 1943 tuberculosis had increased 48 per cent in Paris as compared with 1939. The United States is apparently holding its own against tuberculosis in the face of four years of war. The 1944 tuberculosis death rate showed continued decline for the nation as a whole, though preliminary figures indicate an increase in certain states. Because of the long duration of the disease, the real effect of the war on tuberculosis, however, will not be known for several years.

That the cost of caring for tuberculous veterans of the first World War is estimated at about \$10,000 for each tuberculous veteran?

That as of March 1, 1945, 936,000 persons in 29 states had been X-rayed and that the surveys revealed 11,600 cases with some evidence of tuberculosis—70 per cent minimal, 25 per cent moderately advanced, and 5 per cent for advanced?

That the tuberculosis death rate among Negroes in the Nation is three and a half times as high as among white people?

That tuberculosis kills more persons between

15 and 45 years of age than any other disease? That about 2,500 children under 15 years of age die of tuberculosis each year in this country?

That the most powerful weapon in the detection of tuberculosis is the X-ray—discovered November 8, 1895, by the German physicist, Wilhelm Konrad Roentgen?

That the tubercle bacillus was discovered by Robert Koch in 1882?

That the National Tuberculosis Association was founded in 1904 by a group of physicians and laymen; that the tuberculosis death rate in the United States at that time was nearly 200 per 100,000 population, and that since 1904, the death rate has been cut 75 per cent?

That the North Carolina Tuberculosis Association was established May 30, 1906, by a group of physicians and that it was then known as the Society for the Prevention of Tuberculosis?

That the first Christmas Seals to be sold in the world were sold in 1904; in the United States in 1907; in North Carolina in 1910?

A Scientist's Gift To Man

By

FRANK W. WEBSTER, Executive Secretary
North Carolina Tuberculosis Association

THE perseverance and ingenuity of a scientist 50 years ago brought to light a physical phenomenon which has become one of the modern physician's greatest aids in diagnosing human ailments.

November 8 marked the fiftieth anniversary of the discovery of the X-ray by Wilhelm Konrad Roentgen, professor of physics and mathematics at the University of Wurzburg, Bavaria. Numerous experiments in radiation had been made by Roentgen when his search for invisible energy was crowned with success. He had produced a ray so powerful it penetrated opaque objects.

With complete simplicity, the mathematician named his new ray "X"—the unknown. To-

day that "X" stands for countless lives saved—for by means of Roentgen's ray pictures can be taken of the human body to guide the physician in determining the source and extent of disease and injury

Perhaps nowhere is the value of the X-ray more apparent than in the fight against tuberculosis. Here the X-ray is not only used to diagnose the disease which has no outward symptoms in its early stages, but is also an effective weapon in the campaign to control tuberculosis. By X-raying large groups of seemingly healthy people, previously unsuspected cases of tuberculosis are found. This is to the advantage of the individual and of society. To the individual it means that treat-

ment can be begun before the disease becomes far advanced. To society it means that precautions can be taken to prevent the infected individual from passing the disease on to others.

In North Carolina the voluntary tuberculosis

control program is supported by the sale of Christmas Seals. A fitting observance of the golden jubilee of the X-ray—a scientist's gift to mankind—would be the generous purchase of these Seals. Buy and use Christmas Seals in 1945.

A Functional College Health Program

By

WALTER J. HUGHES, M.D.

School-Health Coordinating Service, Raleigh, N. C.

THE School-Health Coordinating Service has cooperated with Bennett College, Greensboro, in three health projects: the Child Health Conference, the Cooperative Child Health Center and the Community Program of Health Education.

The first one of these projects was a Child Health Conference which began June 7 and terminated July 17, 1942. From the year 1942 through 1945 there have been four conferences held at Bennett College. The aggregate attendance at these conferences consisted of 176 teachers and public health workers. The programs of these four conferences were conducted in a similar manner and included the following activities: formal instruction, demonstrations, conference periods and field trips. Three courses were offered, namely, METHODS AND MATERIALS OF HEALTH EDUCATION, FUNDAMENTAL PRINCIPLES OF NUTRITION, and SCHOOL AND COMMUNITY HEALTH PROBLEMS. These classes met four times per week, Friday being reserved for field trips, and carried six semester hours of credit.

Associated with the Child Health Conference was a Child Health Camp composed of 20 underprivileged children chosen by the local teachers, public health nurses and college

physician from the Washington Street and the Charles Moore elementary schools, both of which are in close proximity to the college. Those children showing pronounced nutritional deficiencies were admitted to the camp for the six weeks period. The children were in charge of a well-trained elementary teacher who organized their activities into a model school program. The children were given three meals a day, adequate in nutritive value and low in cost. The teachers had an opportunity to observe methods of developing good food habits in malnourished children and to note the effects of improved nutrition. The Child Health Camp also served as a laboratory for teachers to practice the techniques of teaching health and nutrition according to grade levels and screening children of public school age.

Small conference groups were formed in order that each teacher could discuss her school and community problems with a consultant.

Field visits were made to dairies, sewage disposal plants, water filtration plants, rural schools and rural communities.

The Cooperative Child Health Center is an outgrowth of the 1942 Child Health Conference. A limited number of retarded children having nutritional problems were selected from the Charles E. Moore and the Washington Street elementary schools. These children on admission were given a complete medical examination by the medical officer of Bennett

*The projects referred to in this article are under the supervision and direction of the personnel of Bennett College, Greensboro, with student participation. The data used in this paper has come in part from there and in part from the college records.

†Two, 1944.

College and their remediable defects were corrected before the termination of the scholastic year. Their nutritional status was improved by a diet consisting of three well balanced meals daily. The children were supervised by a trained elementary teacher from the faculty of Bennett College, who followed the regular courses offered to the 3rd and 4th grades in the public school system. They remained in this center the entire school year. At the expiration of this time they were returned to their respective schools and a new group was admitted at the fall term. There was close cooperation between the regular class room teacher and the teacher in the center during the entire period that these children were in attendance.

The children were first housed in a one story frame building on Sampson street in the vicinity of the college. In order however, that this project might become more integrated with the activities of the college, it was moved to the science building on the campus.

The center has served as a laboratory for courses in elementary education, health, physical and parent education and in home economics. It also served as a stimulus in making the pre-service, the in-service teachers and the community as a whole health conscious through demonstrating how diets on a low income level might become adequate.

The purpose of the **Community Program of Health Education** is two-fold: first, to extend the resources of the college for the improvement of healthful living in community life; second, to utilize community resources as a laboratory for student participation in methods and procedures in applied health.

In the execution of this program the college has not undertaken to invade the fields of any existing agencies doing a similar work. However, in order for the college to project its resources into the community and to utilize community resources as a laboratory for students, the project has been carried out on a cooperative basis with official and voluntary health agencies.

Before this program was put into operation at the beginning of the school year 1944-45,

a conference was called of the staff of the Community Health Program and the officials of the departments of Public Health and Public Instruction. This program met their unanimous approval and they pledged their wholehearted support. The County Health Officer and the Extension Agents worked with the Director of the Community Health Program in selecting the Mount Tabor and Collins Grove communities. These communities were surveyed under the direction of the department of Sociology. On the basis of the findings a specific program was set up in each community with emphasis on sanitation for Collins Grove and nutrition and recreation in Mount Tabor. Home Economics students worked with child care, interior decoration and such phases of nutrition as meal planning and preparation and use of meat substitutes. Students in music have worked in the local church choirs and assisted the Physical Education department in the program of recreation. The Dramatics department has presented plays with the Bennett College students and community participation. Through the students of Library Science there has been set up a travelling library whereby books were issued to the community every two weeks according to their needs. The maintenance department has acted in an advisory capacity in the remodelling and construction of homes. Already several houses are in the process of remodelling and construction. It is interesting to note that one individual was getting ready to remodel his house and found that he did not have a clear title. This was discovered by the department of Economics. The Dean of the Chapel and Director of Religious Education of the college assigned groups of students from his class each Sunday to conduct Sunday School classes, while he conducted a class in religious leadership, thus lifting the church life of the community to a higher plane of usefulness and service.

In addition to the foregoing activities the college has cooperated with the County Health Department in its immunization clinics and environmental sanitation programs.

Deaths From Tuberculosis of the Respiratory System By County and Race: 1944

Total Deaths (Tuberculosis, All Forms) 1,383

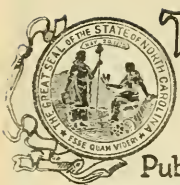
COUNTY	BY PLACE OF DEATH			BY PLACE OF RESIDENCE			COUNTY	BY PLACE OF DEATH			BY PLACE OF RESIDENCE		
	Total	White	Colored	Total	White	Colored		Total	White	Colored	Total	White	Colored
Alamance	14	6	8	17	8	9	Johnston	9	5	4	15	10	5
Alexander	2	1	1	2	1	1	Jones	2	2	---	4	2	2
Alleghany	---	---	---	---	---	---	Lee	1	1	---	4	2	2
Anson	2	1	1	3	2	1	Lenoir	22	7	15	32	9	23
Ashe	1	1	---	1	1	---	Lincoln	3	2	1	4	2	2
Avery	2	2	---	2	2	---	McDowell	1	1	---	3	3	---
Beaufort	7	2	5	11	5	6	Macon	2	2	---	3	3	---
Bertie	15	2	13	21	3	18	Madison	4	3	1	4	3	1
Bladen	4	2	2	9	3	6	Martin	4	1	3	7	3	4
Brunswick	3	2	1	6	4	2	Mecklenburg	48	19	29	49	16	33
Buncombe	323	225	98	43	29	14	Mitchell	5	5	---	5	5	---
Burke	16	15	1	4	3	1	Montgomery	4	4	---	7	6	1
Cabarrus	1	1	---	6	5	1	Moore	2	1	1	6	2	4
Caldwell	3	1	2	4	1	3	Nash	20	5	15	23	6	17
Camden	1	1	1	1	1	---	New Hanover	14	5	9	27	8	19
Carteret	2	2	---	4	2	2	Northampton	5	---	5	17	1	16
Caswell	3	2	1	4	2	2	Onslow	8	2	6	8	5	3
Catawba	10	5	5	15	8	7	Orange	7	1	6	11	1	10
Chatham	3	2	1	8	6	2	Pamlico	3	1	2	3	1	2
Cherokee	4	4	---	3	3	---	Pasquotank	4	1	3	6	---	6
Chowan	2	---	2	4	---	4	Pender	2	1	1	4	1	3
Clay	---	---	---	---	---	---	Perquimans	1	---	1	3	---	3
Cleveland	3	2	1	4	2	2	Person	2	1	1	5	1	4
Columbus	6	3	3	9	4	5	Pitt	9	1	8	23	3	20
Craven	10	---	10	19	2	17	Polk	1	1	---	1	1	---
Cumberland	19	6	13	24	8	16	Randolph	1	1	---	4	3	1
Currituck	---	---	---	---	---	---	Richmond	4	1	3	6	2	4
Dare	2	---	2	3	1	2	Robeson	8	2	*5	14	1	*10
Davidson	7	6	1	10	8	2	Rockingham	8	3	5	11	5	6
Davie	1	1	---	3	2	1	Rowan	10	5	5	15	7	8
Duplin	2	1	1	5	1	4	Rutherford	4	3	1	6	5	1
Durham	25	10	15	35	10	25	Sampson	11	5	6	14	5	*8
Edgecombe	25	7	18	31	7	24	Scotland	3	---	3	6	2	4
Forsyth	65	16	49	73	20	53	Stanly	4	4	---	7	7	---
Franklin	2	---	2	6	---	6	Stokes	3	3	---	3	3	---
Gaston	8	5	3	9	6	3	Surry	8	8	---	9	9	---
Gates	2	1	1	3	1	2	Swain	4	1	*1	3	1	**
Graham	---	---	---	---	---	---	Tennessee	1	1	---	2	2	---
Granville	4	1	3	9	2	7	Tyrrell	---	---	---	1	---	1
Greene	4	2	2	7	3	4	Union	1	---	1	4	3	1
Guilford	30	18	12	35	20	15	Vance	5	3	2	6	3	3
Halifax	23	3	20	27	6	21	Wake	48	26	22	38	12	26
Harnett	6	1	5	7	1	6	Warren	3	1	2	6	3	3
Haywood	1	1	---	2	2	---	Washington	---	---	---	2	---	2
Henderson	3	3	---	5	4	1	Watauga	1	1	---	4	4	---
Hertford	6	1	5	13	4	9	Wayne	70	9	61	23	9	14
Hoke	136	35	98	6	2	4	Wilkes	4	3	1	9	5	4
Hyde	1	1	---	2	2	---	Wilson	73	16	57	32	11	21
Iredell	6	3	3	10	4	6	Yadkin	1	1	---	1	1	---
Jackson	4	3	*	5	4	**	Yancey	4	4	---	8	8	---
							Entire State	1,281	579	695	1,038	419	612

*Place of Death:

Hoke—3 Indians
Jackson—1 Indian
Robeson—1 Indian
Swain—2 Indians

**Place of Residence:

Jackson—1 Indian
Robeson—3 Indians
Sampson—1 Indian
Swain—2 Indians



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UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL, N. C.

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The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils
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 Pellagra
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 Tuberculosis
 Typhoid Fever
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 Vitamins
 Typhoid Placards
 Water Supplies
 Whooping Cough

SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, North Carolina.

Prenatal Care.
 Prenatal Letters (series of nine monthly letters).
 The Expectant Mother.
 Breast Feeding.
 Infant Care. The Prevention of Infantile Diarrhea.
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Baby's Daily Time Cards: Under 5 months; 5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
 Diet List. 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
 Instruction for North Carolina Midwives.

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Mountain Peaks And Roads Of Public Health

By

WILLIAM H. RICHARDSON

North Carolina State Board of Health
Raleigh, North Carolina

THERE are those in every useful profession who stand out like mountain peaks, silhouetted against the horizon of human experience, sending down the waters of truth, that those who dwell in the valleys and on the plains may drink and be refreshed.

At the feet of these Gamaliels some of us are privileged to sit and learn the lessons of life. These men—these emblems of stability are not moved by fads and fancies. Their wisdom was not acquired overnight. It was not drawn from textbooks, but from years and decades of experience, translated into service.

In no field does the sage stand out more clearly than in the field of medicine, a profession dedicated to the alleviation of human suffering and the prevention of disease. Equipped with knowledge, linked with experience, the sage is moved by compassion and motivated by a sincere desire, through an understanding spirit, to minister to the needs of his fellowmen, in order that they not only may find relief from physical suffering, but be lifted from the darkness of ignorance and brought into the light of truth, which, we believe, makes men free. Truly wise men are not essentially the products of any educational system. Neither are they creatures of chance. Isolate one of them—to use a scientific term—

analyze him, and you will discover, in the innermost recesses of his thinking, something that is akin to divine love and compassion. The profession that can lay claim to a truly wise man is indeed fortunate, as are the beneficiaries of the profession to which he has dedicated himself.

We find all these qualities and attributes well grounded in the person of Dr. Milton J. Rosenau, one of the world's greatest authorities on public health—and preventive medicine—who, since 1936, has made his home at Chapel Hill. He came to this State to become the first director, or dean, of the North Carolina School of Public Health, which started, as he afterwards put it, "on a shoestring," but which now stands at the top of the list.

Doctor Rosenau's position as Director of the School of Public Health of Harvard University was but one of the many important posts he held before coming to North Carolina. He organized sanitation in Cuba after the Spanish-American War, was for several years quarantine officer for the port of San Francisco, and directed numerous other public health activities. He has participated in various medical and public health conferences throughout the world, and is the author of the most famous textbook of preventive medicine and hygiene, which is found in medical libraries

throughout this and other lands.

It is no wonder, then, that North Carolina is proud of this eminent authority, whose words of wisdom and untiring activities have given great impetus to public health work in this State.

Doctor Rosenau recently was the guest speaker at a session of the North Carolina Academy of Public Health, which is composed entirely of health personnel and was the first organization of its kind ever perfected in any state in the Union.

His remarks on that occasion are well worth passing on to those whom Public Health is obligated to serve—and that means everybody.

There are, Doctor Rosenau said, four roads of public health that become superhighways, all with the same objective. They began as trails, he pointed out—tiny trails, often running through mountains of superstition.

These roads are: Sanitation, hygiene, community health, and mental and moral health, all leading toward one common goal of perfect health. Sanitation, he went on to explain, is environmental cleanliness, while hygiene deals with the body. These terms cannot be adequately defined, but they can be described. We speak of sanitation of the school, but of the hygiene of the pupil—of the sanitation of the Panama Canal, for example, but of the hygiene of the alimentary canal.

The time was when boards of health were chiefly concerned with a study of infection, rather than health in its broader aspects as we now know them. In many instances, they concerned themselves with matters that were, in reality, problems for police rather than health departments—the abatement of nuisances, rather than the prevention of conditions unfavorable to the maintenance of community health.

Through sanitation, we eliminate, as best we can, the causes of typhoid fever; but, realizing that sanitation has not reached perfection, we take the added precaution of immunizing against this disease, which formerly claimed its thousands of victims every year, but which now has been all but erad-

icated, through a combination of sanitation and immunization.

As to community health, the speaker declared that in the none too distant past it had to be "sold" to those who needed it. Now, it is demanded, not as a charity or special benefaction, but as fire and police protection are demanded. No one person can combat infection. It requires communal effort, which, in reality, began with civilization, and has been broadened and revised, as a valuable asset to public health.

What public health wants to do, Doctor Rosenau declared, is not simply to keep people from getting sick, but to improve the health level of all, because good health makes for the happiness of any community, any people. At this point, he significantly declared: "We spent around \$300,000,000,000 to win World War II, the first major war on record during which bullets killed more people than disease. It is not unreasonable, therefore, that we ask for millions to promote public health—as against these billions that were spent for human slaughter."

Doctor Rosenau concluded his address by emphasizing the importance of mental and moral hygiene, which, he said, not only promotes poise, tolerance, and understanding, but is necessary, if there is to be any lasting peace in the world. The railway engine can run without headlight, whistle, or cowcatcher, but it cannot run without a driving force. Just so our civilization—including public health. It can be maintained, after a fashion, without mental and moral hygiene, but these are absolutely essential in the governance of a well-ordered world—one in which the causes of war are under attack by those who seek their elimination. The speaker impressed his listeners with the fact that he regarded mental and moral hygiene as the finishing touches to any public health program, without which such a program could ever develop into full fruition—that there must be something of the spiritual, as well as the material, injected into any movement designed to promote the security and happiness of the human race.

Furthermore, he emphasized, not once, but several times during his address, that we must not be content with merely escaping infection and other sickness, but that the level of health itself should be raised, and that higher level maintained. In other words, it is not enough simply to keep out of bed—and up and going— but, to be really healthy, one must possess a body that is sound and prepared to combat disease, in which is housed a mind

that is capable of making the right decisions at the right time—he must possess those spiritual qualities that tend to eliminate man's inhumanity to man, which, up to the present, has "made countless thousands mourn."

Thus, a wise man had spoken, and those who heard went away with the realization that they had been sitting at the feet of a modern Gamaliel.

A Memorable Visit To Spruce Pine

By

LOUISE P. EAST, R.N.

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North Carolina State Board of Health

Raleigh, North Carolina

I REACHED Spruce Pine in Mitchell County on August 14th and the time was seven o'clock in the evening. Before my car was parked, whistles and automobile horns began to blow, bells were ringing and people rushed about in excitement. No one needed a radio to know what had happened.

Peace had come!

The town of Spruce Pine took the news in its stride. Guests in the hotel gathered around the radio for further news. Those in the dining room continued eating their dinners. There were tears in many eyes. Young folks responded by jumping into cars and driving like mad to no place in particular. The most hilarious exhibition I was able to see was four cars full of young people over in the Spruce Pine High School ball park, racing their cars around and around, blowing horns and kicking up an awful dust. A church bell pealed out an invitation to folks to gather for prayer and thanksgiving. A train came rumbling through with two powerful engines carrying one hundred car loads of coal. Anyone who has been to Spruce Pine knows what it means for one of these coal trains to go through. The sensation is, that the train is almost in the house with you as it strains and puffs and winds its way down the Toe River on the

CC&O line. It seemed a part of the celebration. Farther away a great concussion went off every few minutes which echoed and reechoed through the mountains. It sounded like a giant cannon but was probably dynamite which is used in mining operations of that community.

Over the radio came the announcement of two days vacation. That news brought me back to reality. I had come to Spruce Pine to work with the War Emergency Public Health nurse. Would she take two days holiday? Wednesday morning brought the answer—Miss Dellinger was over bright and early. Said she, "I am so happy, I feel more like working than ever before." Immunization clinics were held all day. Although Mitchell County has enjoyed the benefits of a Health Department for only one year, it is gratifying to observe the confidence which has been established among the people in so short a time. Parents are bringing their children to clinics for the protective doses against whooping cough and diphtheria. Little tots proudly show their smallpox vaccination scars.

The following day was spent in an eye clinic at Spruce Pine, held cooperatively by the Health Department and the State Commission for the Blind. Twenty-two patients

were examined by Dr. John D. Wilsie of Winston-Salem. Many of these were school children whose poor vision had resulted in retardation of school work, causing the child to remain in the same grade more than a year. Some were elderly people seeking all the help they could get for their failing vision. One Negro child was examined.

Thursday was spent in home visiting. Turning off the highway we wound our way around and up the mountain, stopping the car by a path which led straight up for a thousand feet. Our climb was rewarded in two ways. The widowed mother, in whose home we visited, appreciated the immunizations which were given to her four children. They are planning to enter Crossnore School this Fall. The second reward was a beautiful view of Crabtree Falls which was clearly visible from that mountain top home. Our second visit was to the home of a little near-sighted boy who had been examined at a former clinic. Although notified about the arrival of his glasses no one had called at the office to claim them. Although a heavy fog hung over the mountains we could see and enjoy some of the matchless beauty before us. We were on a winding road behind Little Switzerland, and below in the valley, was an apple orchard giving promise of thousands of bushels for the September harvest. Arriving at the home, we found that the mother and an older sister were also near sighted. Both wore glasses. The mother had decided that the little boy would break glasses and although he is of school age she thought he could get along well enough without them. An effort was made to educate the mother to the value of protecting the eyes. The glasses were left which may prevent this particular boy from repeating a grade in school.

Disease had laid a heavy hand on the next home we visited for the father was dying of tuberculosis and silicosis. He had been admitted to Western State Sanatorium twice, but each time had left without permission. The past history of this family demonstrates some of the tragedies which might have been prevented through the years, before Public Health

was established in Mitchell County. There are ten living children in the family, one died of tuberculosis meningitis. Several of them have positive tuberculin reaction, however, X-rays have revealed no active disease. Two years ago, four children in the family were ill with diphtheria. The youngest child is four months old. Miss Dellinger is doing a good job of educating the mother regarding the importance of protecting the family from infection although there has been heavy exposure over a period of four years.

Wild tales are told of some people in isolated mountain areas. Most of these spring from the imagination, regardless of any element of truth, and are repeated for the entertainment of those who are not acquainted with the normal state of affairs. Even so, funny things do happen. Not until this visit had I seen an adult run and hide when visitors approached. Our car was parked on the road below,—we were climbing straight toward the sky when I stopped to get my breath. Looking up I saw a woman standing by the cabin. When we reached the spot, she had vanished. Our knocks and calls did not bring her back. The family is on relief and the Welfare Officer had requested that the three children in the home be immunized, which was the object of our visit. This experience did not discourage Miss Dellinger, however, she looked around and calmly said. "I'll catch her here yet."

Those of us who have been trying to hold Public Health Service up to the best possible efficiency under war time conditions are greatly indebted to the various staffs who have carried on in spite of personnel shortages, old cars that refused to pass a garage without going in for repairs, and other difficulties. Especially are we indebted to the War Emergency personnel who came to the rescue and filled many of the vacancies. They have served cheerfully and well. Without them much of the work would have been left undone. Now that Peace has been restored, it is gratifying to know that many of those in this area, who are eligible, are planning to take Public Health training as soon as they can be relieved.

Man's Quest For Health-Giving Food

By

WILLIAM H. RICHARDSON

North Carolina State Board of Health

Raleigh, North Carolina

MAN'S quest for food dates back to the beginning of the race. To the first pair, a moral diet list was given by their Creator, telling them what they could and should not eat. They ate the wrong thing, we are told. Then, the man had to sweat for his food—he had to produce it the hard way. But there is nothing in the record to show that he went on a hunger strike. It was necessary for him to eat, even as it has been necessary for his billions of descendants to eat, in order to live.

Many years after Eden, Moses, the great law-giver provided the people he was leading with a physical diet list, the observance of which became a religious obligation. Thus, we see a linking of the physical and the spiritual, in the quest for health-giving food. From the Master of Galilee came the reminder that "man shall not live by bread alone"; that "life is more than meat, and the body than raiment."

Food always has been necessary, not only to life itself, but to the moral and spiritual advancement of any people. In order to be physically healthy, we must eat the right kind of food—the right combinations. This has been proven beyond any doubt. Formerly, the poor ate to live and many rich lived to eat; but we now know that, rich or poor, we are what we eat; that food is changed into brain and brawn, and personality, and that the ravages of hidden hunger are more subtle, more destructive than those of hollow hunger—the kind that men satisfied for centuries, without even knowing there was any difference.

If we give close study to the food habits of our predecessors, we find that, without any scientific knowledge whatsoever, they instinctively turned to certain foods because these foods apparently made them more

healthy. They remind one of the Greeks who had erected an altar to the unknown God, to whom Paul said: "Whom, therefore, ye ignorantly worship, him declared I unto you." Many of the things our ancestors ate, thinking they were healthful, were healthful and are now included in the "Basic Seven". On the other hand, they regarded tomatoes, which they grew only for ornamental purposes and called love apples, as being poisonous. We know better—we know that tomatoes are one of our best sources of vitamin C, so necessary to the growth of children, and valuable in the building up and maintenance of strong blood vessels and sound gums.

Nations have been known to go to war for the control of food supplies. Despite the fact that the Creator provided food, or endowed man with the power to produce it, for all the people, yet there are some who seek to control food supplies, to enrich their own coffers and those of their associates. That is a nefarious practice and it ought never to be tolerated by an enlightened or well-ordered society.

During the recent war, food constituted a major problem—how to ship the proper kinds of the right quality to afford bodily nourishment to the men in our own armed services and to those nations that were dependent upon the United States for their daily bread. It also constitutes a post-war problem. We fed, to a great extent, those nations which helped us overcome the forces of nazism, and the Japanese menace; and now that peace has come, we must see to it that the nations whose food supplies were depleted by the invading hordes that flowed across their borders are not allowed to starve.

The greatest duty we have, though, is to our own people, here in the United States—those people who produced the food and

materials with which we and those associated with us were enabled to win World War II.

Why is food so important? Why does it play such a vital part in our national life? Not simply because it is necessary to keep our people alive, but because, intelligently used, it can and does raise our health levels.

But we must not allow ourselves to think of health as simply a national problem. It is, as was pointed out to you two weeks ago, a global problem, in a world that has, through modern means of transportation and communication, shrunk to back-yard proportions. We might, in a measure, be justified in trying to live to ourselves if we did not suffer through the misfortunes of others; but the day of isolation has passed, whether we like it or not. The food problem of Asia is the food problem of North America—not solely from a humane, but also from a practical standpoint. If we are to have lasting peace, we must have a balanced world; and if we are to have a balanced world, we must have a healthy world—and if we are to have a healthy world, we must have a well-fed world. Therefore, the food problem is of paramount importance in working out any formula that will keep nations from each other's throats in the years to come. An atomic bomb will destroy a city, but famine can destroy an entire nation, and national destruction in any part of the world has its repercussions and reverberations around the globe. We are even called upon to feed people we do not like and whose interests are, in no wise, synonymous with our own, to keep them from becoming a menace.

Improper nourishment means disease, and disease knows no territorial barriers. It can travel as fast as the fastest airplane and its germs can fasten themselves upon and take root in the bodies of the well-to-do, as well as those of indigents—in the white man, as well as those of the colored races; in the moralist, as well as the libertine.

Food is so important that it now plays a major role in any public health program. The value of good nutrition is becoming increas-

ingly emphasized, especially in the school room, where daily, for nine months out of every year, are assembled those who will be tomorrow's citizens—those upon whose shoulders the responsibilities for a lasting peace will rest. By teaching the child proper food habits we also, in many instances, reach the parents back home and arouse interest among them. This is certainly true of parents who keep themselves informed as to what their children are studying—what progress they are making in health, as well as scholarship.

A well-ordered school lunch room excludes soft drinks, candy and other things that might tend to lessen the child's appetite for foods of the Basic Seven group—not that soft drinks, taken at the proper time, are injurious. The chances are that many of them are not harmful, certainly if they are bottled under sanitary conditions. Candy in reasonable amounts and eaten at the right time, furnishes carbohydrates, which are necessary for body maintenance, but it is doubtful if many of the bottled drinks have any real food value, and it has been found they tend to lessen the child's appetite for nourishing food at meal times. Well-informed nutritionists long have contended that candy and bottled drinks should not be offered for sale, either at a school cafeteria or in the immediate vicinity; and it was only this week that Dr. Clyde A. Erwin, State Superintendent of Public Instruction, notified schools operating cafeterias that if they sold these things they would not be eligible for participation in the cafeteria funds. That ought to go a long way toward settling the issue.

Good nutrition now is being taught in many of the schools, along with other standard health practices. Thus, you will see that our children are NOT being indoctrinated with destructive, but with constructive ideas. If we are to plan for a secure future, we must begin with the child; and if the child is to succeed in the important role he is destined to play, he must be healthy.

On June 16, 1858, Abraham Lincoln declared in a speech: "I believe this government

cannot endure permanently half slave and half free". end quote. Neither can it be at its best half fed and half hungry—half sick and half well. In his second message to the Congress as President, December 1, 1862, the great emancipator further declared: "In giving freedom to the slave, we assure freedom to the free—honorable alike in what we give and what we preserve".

America has just played the leading role in freeing millions of oppressed peoples all over the globe; and from this breadbasket of the world have gone millions upon millions of tons of food to feed these emancipated slaves, in addition to the vast shipments we sent to our helpers in the struggle, that they

might keep up the fight to a finish.

Unless we, ourselves, make provision for our own proper nourishment—unless we combat existing malnutrition, we may not be able again to help take the world out of the fix in which it found itself at the beginning and for the duration of German and Japanese aggression, if that should ever again become necessary. Moreover, we will not be as well prepared to cope with the internal problems that we must solve, looking to the maintenance of a permanent peace.

Food is our greatest weapon of offense and defense in time of war, our greatest ally in time of peace. Let us, therefore, conserve it and use it well.



Jacquelyn and Robert Ernest Burrage, children of Mr. and Mrs. F. L. Burrage, Jr., Concord, North Carolina. Grandchildren of Dr. E. A. Branch, Director, Division of Oral Hygiene, North Carolina State Board of Health, Raleigh, North Carolina.

Employment Opportunities In Public Health*

THE American Public Health Association has recently published a thirty page brochure on the above subject, cooperatively prepared by its Committee on Professional Education and the United States Public Health Service.

Now that communities are looking ahead to the near future when normal living will again prevail and men and women released from military service are taking a long view of their life work in reestablishing themselves in the community, worthwhile opportunities for public service should be brought to their attention. The brochure gives valuable information as to institutions offering training in public health and the qualifications for each of the vitally important positions that make up a modern health department.

Administrative Activities

The health officer has varied duties but most important of all is the "development and carrying out of policies for the promotion and protection of community and individual health."

First among his assistants in carrying out such a program is the sanitary engineer. "The sanitary engineer at work in the public health field is concerned not only with the physical problems of environmental sanitation, but he must be able to interpret the principles of sanitation to the community in order to obtain public support for their application."

The public health laboratory worker functions in "bacteriologic, serologic, pathologic, chemical and other examinations associated with the diagnosis and control of diseases occurring in man and of diseases transmissible to man, occurring in domestic and wild animals; examination of water, sewage, industrial wastes, shellfish, milk, frozen desserts, etc."

Another important worker is the public health statistician who "collects, analyzes and interprets records of births, sickness and death as basic facts for guiding public health planning."

Specialized Activities

Specialized health activities include direction of "such programs as maternal and child health, tuberculosis control, venereal disease control, cancer control, mental hygiene and industrial hygiene."

The public health nurse is both nurse and educator. "She promotes not only the physical health of her patient, but his mental, social and emotional well-being. Because sickness is often closely allied with social and economic situations, the public health nurse helps to bring together all community resources needed for solving these problems. To do this, she works closely with physicians, hospitals, health and welfare agencies and many other groups.

The health educator "assists people to become intelligently aware of individual and community health problems and to share the responsibility for their solution, for without individual participation many health problems cannot be solved."

A profession growing in importance is the industrial hygienist who "is concerned with preserving and promoting the health of the industrial population. He is responsible for the prevention of accidents, occupational disability, absences due to illness and control of the occupational environment."

The nurse in industry not only gives emergency care to the injured and ill, but "her objective is to assist in keeping each worker well and on the job and to do this she works closely with safety, personnel and all other departments of industry."

The nutritionist in a health agency "is responsible for organizing and carrying out a program to prevent and control dietary

*Connecticut State Department of Health Weekly Health Bulletin.

deficiency diseases and to promote positive health through encouraging an adequate dietary."

A copy of this brochure has been sent to

your local health officer. For further information write to the American Public Health Association, 1790 Broadway, New York 19, New York.

Nutrition Films

Approved by Education Committee of the State Nutrition Committee

Something You Didn't Eat

16mm. Sound. 10 min. Free.

A Walt Disney production. Excellent for high school or adult groups. Technicolor. Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Can All You Can

16mm. Sound. Color.

Shows methods of canning of fruits and vegetables. Good for home-making classes and homemakers. N. C. Agricultural Extension Service, State College, Raleigh, N. C.

Proof of the Pudding

16mm. 10 min. Sound. Color. Free

A picture showing the application of nutrition information in the feeding of animals and how easily nutritious foods can be selected for human beings. Suitable for adults with moderate to good incomes, high school classes, college students and teachers groups. Metropolitan Life Insurance Company, New York City, N. Y.

Live at Home

16mm. Sound. Color. 11 min. Free.

How a farmer can supply nearly all a family's food needs. Good for agriculture and homemaking students and adults. U. S. Department of Agriculture, Washington 25, D. C.

Ever Since Eden

16mm. 20 min. Sound. Free

The story of the introduction and development of tomatoes; their contribution of vitamin C to the diet and their production. Excellent for high school students and adults. Obtained from Castle Distributors

Corp., 30 Rockefeller Plaza, New York City 20, N. Y.

Citrus in Nutrition

16mm. Color. 12 min.

Demonstrates variety of ways of introducing citrus fruits into the diet. Good for home-making classes and homemakers. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.

The Children Must Learn

16mm. 2 reels. Sound. Rental fee \$3 per day.

Not, strictly speaking, a nutrition film. Records living conditions in a rural community, showing the relationship between the children's experiences and the usual classroom teaching. Suitable for teachers, school administrators, nurses and other professional groups interested in health instruction. New York University Film Library, 71 Washington Square, N. Y.

And So They Live

3 reels. Sound. 16mm. 26 min. \$4 per day.

An intimate picture of a family living in unfortunate social and economic circumstances. Shows tragic poverty of the land and the lack of proper diet, housing and sanitation. New York University Film Library, 71 Washington Square, N. Y.

For Health and Happiness

16mm. 11 min. Sound. Color. Free.

Shows healthy children from infancy through adolescence; illustrating the factors essential for optimal growth and development. Particularly suitable for teachers, professional groups interested in children, and

parents who have had educational advantages. State Board of Health, Raleigh, N. C.

The last three films are good for adult study groups and teacher groups. Give a good background to the study of nutrition and family problems. For Health and Happiness is a contrast to the other two.

The committee recommends that all films be reviewed before showing to groups, and the educational points should be used in discussion before or after the showing of the film.

News Release

The Pediatricians of this country, along with many other groups and individuals, are aware that if children are to receive the care they need in the post war period, systematic planning to provide this care must take place. The American Academy of physicians feels that the responsibility for such planning rests squarely on the physicians themselves. At its annual meeting in St. Louis in November, 1944, a plan was approved to make a survey of the needs of the children of the United States and the facilities available to meet these needs. The organization work of this survey has now been completed and North Carolina has been selected as the pilot state for the study.

The importance of the survey cannot be overemphasized. It is the first attempt of an organized group of medical men to inquire into its own affairs. One of the most important aspects of the survey will be a study of the public health departments as well as voluntary agencies. The Academy Survey in North Carolina is sponsored by the North Carolina Pediatric Society. The local health officers in North Carolina are in a strategic position to cooperate with the pediatricians of the State in this important project. The success of the National Study will in a great measure depend upon the results in this state. The success in this State depends upon the cooperation of all North Carolina physicians, especially the health officers.



Miss Billie Carole Hudson, daughter of Sgt. William E. Hudson and Mrs. Hudson, Route 1, Catawba, N. C. At 10 mos. Billie weighed 21 pounds and 8 ounces. She has been immunized against Diphtheria, Tetanus and Whooping Cough.

OUR FRONT COVER

The School of Public Health at the University of North Carolina has rendered magnificent service to the cause of public health in the eight Southeastern states for which it was established.

Without diminishing its service to this area it has been helpful to a great many other states in the union.

The present class is the largest one which has ever attended this School which sets a good example to the nation for the solution of our reconversion problems.

A dashing young driver named Bill,
Drove recklessly down a steep hill.
Said he: "I'm renowned
For covering ground."
But, alas, now the ground covers Bill!

Notes and Comment

PUBLIC HEALTH IN RECONVERSION

NOW that American health has safely weathered the war without devastating epidemics and with an actual reduction in the death rate of civilians, thoughtful persons are looking to the future. In the October issue of the *American Journal of Public Health* Dr. Thomas Parran, Surgeon General of the United States Public Health Service, discusses the problems confronting us and manifests his concern as to how these problems will be met. He states, "As a national wartime responsibility the federal government has supplied the funds and personnel to keep together a public health organization during these critical years, but state and local health authorities must now take over a larger share of the costs of many essential programs." In Dr. Parran's text we find the following:

"It is reasonable to assume that:

1. Reconversion to a peacetime economy will create health problems comparable in scope and extent with those of war.
2. State and local health authorities will have to take over a larger share of the costs of many essential programs.
3. The federal government will not assume sole responsibility for the planning of public health works; initial efforts must come from the states.
4. The release of man power and materials for construction offers opportunities for the establishment of essential health facilities at an earlier time than could be anticipated two short months ago.
5. The training of health personnel, in sufficient numbers and of adequate qualifications, will require joint action on the part of all official and non-official agencies concerned.
6. Health organizations larger than any we have known before, both in size and in scope of operations will be needed to attain the objectives of national health.

"Recent estimates of the Census Bureau show that 27,000,000 Americans, exclusive of

military personnel, have migrated during the war—nearly one-fifth of the total population. Many of these will return to home communities where health services and facilities are depleted. Many others will remain in localities where unsatisfactory war conditions have prevailed; demands for adequate health services in such areas will have to be met. Wartime health installations are being liquidated. Add to this the demobilization of some 10,000,000 service men and women within the next twelve months, and the magnitude of the reconversion problem comes into focus.

During the period of adjustment, health problems are certain to be aggravated in all areas. The control of communicable diseases, especially those spread by personal contact, will be more difficult than during the war, when the military authorities cooperated with the civilian agencies in applying brakes to the spread of venereal infection, tuberculosis, and epidemic diseases among a sizable group of the population.

As a national wartime responsibility, the federal government has supplied the funds and personnel to keep together a public health organization during these critical years. The Emergency Health and Sanitation Appropriations to the Public Health Service (1941 through 1945) have totalled \$38,672,700 for services in military and war industrial areas. These services have included the assignment each year of between 300 and 400 professional personnel to state health authorities, by the Public Health Service.

The activities maintained by this emergency force and the depleted staffs of the state and local agencies have actually held the line against serious threats to national health. Realistically, health officials admit that the lines against disease have been thinly held.

That we have been spared a devastating epidemic during the war has been nothing short of a miracle. If a virulent strain, instead of a mild type of influenza, had struck us in the winters of 1940-1941 and 1943-

1944, the loss of life would have been great, for we have no proved scientific controls against the disease. Throughout the war years, meningitis has been at the highest incidences ever reported, although deaths have been lower than in the past, due to the use of sulfa drugs. Poliomyelitis, never a frequent cause of death, has shown an upward trend during the last decade; in 1944 and 1945, it was epidemic in many areas. Scarlet fever, which responds to sulfa therapy, was epidemic in a number of states in the first quarter of 1944. Local outbreaks of diseases such as typhoid fever, other gastrointestinal infections, and smallpox have occurred; but they have been brought quickly under control because public health organizations were available promptly to apply known methods of prevention. That these outbreaks were so few in number and so negligible in their effects is due to the untiring efforts of the civilian health personnel.

Through greatly expanded wartime services, the civilian health authorities have been able to hold the gains previously made against syphilis. After five years, when sharp increases in this disease were to be expected, the present estimated annual incidence of 200,000 cases represents a notable achievement. Prior to 1939, mass methods of control had not been applied to gonorrhea; the attack on this disease during wartime has, therefore, had to be directed against abnormal conditions of increased exposure.

There has been no general rise in tuberculosis mortality among civilians during the war, although doubtless there has been an increase in certain areas and population groups. Through the cooperation of industry, the military authorities, and health agencies, nearly 200,000 cases have been brought to light by means of X-ray examinations among civilians and the armed forces. About two-thirds of these cases, when discovered, were in the early stages of the disease."

SELECTIVE SERVICE

IN the published report of the Selective Service of the young men examined during the years 1942-1943, North Caro-

lina had the undesirable distinction of leading the states in percentage of men rejected, as being unfit for military service. Of the men examined during these years 56.8% were reported to be physically defective to the point to which they were not deemed qualified to defend our liberty and independence as a nation. This finding will deserve the most careful study. In the October 31st issue of the University of North Carolina News Letter we find some additional information:

The rejection rate means simply that of men examined so many out of 100 were found to be unfit for military service. The rejection rate for the state was 44.68 per cent, with 48 counties below this and 52 above. Rates ranged from a low of 30 per cent for Clay county to a high of 64 per cent for Greene county, a variation of 34 per cent.

The rejection rates for white registrants varied from Beaufort's 23.56 per cent to Greene's 68.38 per cent, with the state rejection rate for whites standing at 37.35 per cent. For Negroes the rejection rate for the state was 53.28 per cent; counties ranged from 41.01 per cent for Transylvania county to 70.01 per cent for Rutherford. Although the Negro rejection rates was higher than the white in all but two counties considered individually, it is perhaps significant that Negro rates in some counties were considerably lower than white rates in certain other counties. It is equally significant that for the two counties rejecting the greatest proportion of their registrants, Jones and Greene, the Negro rejection rates were lower than the white by about seven per cent.

Generally, most of the lower rejection rates were in the western part of the state while the higher rates tended to occur in the east. McDowell was the most conspicuous exception, only eight counties having rates that were higher. Ashe, Wilkes, Stokes, and Rutherford were less decidedly variants from this tendency. All counties ranking 75 to 100, except McDowell, were in the eastern half of North Carolina; all counties ranking 1 to 25 were in the western half.

Further statistical analyses were made in order to determine how Selective Service rejections fitted into the pre-existing pattern of life within the different counties, since rejection for military service was a product of circumstances that existed in the county and the state prior to the establishment of the Selective Service System. We found that rejection rates were lower in urban or semi-urban counties where fewer men were employed in agriculture. Fewer men were rejected in counties in which subsistence farming rather than commercial agriculture prevailed. On the other hand, fewer men were rejected where general levels of living and educational levels were higher.

The relationship between place of residence and occupation is obvious. When people live in the country they are more likely to work on farms. We are only too aware that educational and health services for rural people lag far behind the urban level. It is interesting to note that last year 73 out of the 100 counties spent less than 75 cents per capita for full time public health service and that 12 counties had no full time public health unit. Seeing the association between education and rejection, we are impressed with the need for furthering adult education programs as well as increasing and improving educational facilities for children. Also, the cotton-tobacco duet sings a sad song for the state; there are many undesirable social and health characteristics that accompany cash cropping, profitable as tobacco is at present.

All this clarifies the need for further study and planning so that North Carolina will have a sound reliable population resource.

—Kie Sebastian.

A report on the study of the case of rejections and incidences of defects among 18 and 19 year old Selective Service registrants by the Children's Bureau, United States Department of Labor, shows that approximately 25% of the young men in this age group were physically defective. The leading causes of rejections other than educational deficiency were:

	Rejected per 1000	Cases Found per 1000
Eye Conditions	44.9	101.5
Mental Diseases	27.6	33.2
Musculoskeletal Conditions	22.7	59.0
Cardiovascular Conditions	21.4	31.7
Hernia	16.3	25.2
Ear Conditions	15.0	25.2
Neurologic Conditions	14.8	17.5
Syphilis	10.2	12.2
Underweight	7.1	25.9
Tuberculosis	6.8	8.0

* * *

FIRST AID THE American Red Cross has just published a revised edition of their first aid textbook. The new edition is prepared on a wholly different basis from previous editions. In the preface of this statement: "This rewritten text was referred to the surgical experts and to the staffs of the Office of the Medical Director and of the First Aid, Water Safety and Accident Prevention Service of the American Red Cross for further review."

The following are chapter subjects:

1. The Why and How of First Aid
2. Shock
3. Dressings and Bandages
4. Wounds and Their Care
5. Artificial Respiration and the Treatment of Common Asphyxial Accidents
6. Poisons
7. Injuries to Bones, Joints, and Muscles
8. Injuries Due to Heat or Cold
9. Transportation
10. First Aid for Common Medical Emergencies
11. The Human Body; How It Is Put Together and How It Works
12. First Aid Kits

There are 264 illustrations. The index appears to be adequate. This Textbook should be most helpful in the training of large numbers of persons in the fundamental principles of First Aid.



Twenty-two of the twenty-seven mid-wives in Roberson County in attendance of the Annual Mid-Wives' Class, conducted by the Roberson County Health Department. All of these twenty-two mid-wives have Grade A Certificates and are doing creditable work under the capable supervision of Dr. E. R. Hardin, County Health Officer, who has done outstanding work in this field.

